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CEP: 74.150-030 62 3285-6111
comunicacao@amg.org.br

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summary

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Incisional hernia repair: the origins of the Lázaro da Silva method in the state of Goiás

Renato Miranda de Melo[1]

HÉRNIAS - WHAT DO WE NEED THEM FOR?

The repair of incisional hernias (IH), especially median hernias, as they are the most common, has always aroused the interest of the medical community. Its high frequency reflects the growing number of large operations, whose duration is proportionately longer, performed in patients with more advanced age, including the very obese! Such circumstances challenge the previously rigid criteria of indication, but above all those of contraindication, in addition to overcoming the prerogatives of operability. No less remarkable has been the proportion of patients treated with their abdomen literally open, in the catastrophic conditions of pancreatitis, septic peritonitis or even in damage control in severe polytraumatized patients. Many end up developing massive parietal defects if they survive. Finally, there are those whose attempts at correction have failed, generating what are now called complex hernias — those whose treatment will be difficult, costly, iterative, or even impractical. This hostile scenario has been softening with the progressive spread of laparoscopic surgery, universalizing the mini-invasive access route in visceral procedures. Thus, the integrity of the abdominal wall is preserved, minimising complications and sequelae.

This has motivated surgeons around the world, especially those dealing with more challenging cases, in the search for surgical alternatives to correct these hernias, all of which are equivalent in terms of percentage of cure. What varies is the indication and burden of each one, whether biological or financial. For example, it is possible to repair the abdominal wall using the patient's tissues properly, but also with the use of meshes or, even, mixing one and the other, trying to restore to a greater or lesser degree the anatomy distorted by the hernia disease.

In the first option, the surgeon occupies a central position, and the outcome will depend mainly on his anatomic knowledge, skill, delicate tissue management and accumulated experience. In other words, his performance outweighs any inputs. In the other one, this logic is inverted, and the operation starts to gravitate all around the prosthesis. With great added value, it will be the main reason for the treatment.

The surgeon transforms himself into a "vector" of meshes, becoming addicted to the availability of material resources, including electronic equipment, special instruments, some even disposable, and, obviously, electricity. However, the less the doctor does to restore the wall, rescuing his contractile prerogative, the more he will be held hostage by the meshes. And we all know that no hostage is in charge...

Another development of this last strategy includes the fact that patients will have to adapt to the permanent presence of a foreign body in their body, with its local ailments (seromas, infection and chronic discomfort), albeit rarely, and even systemic ones, fortunately even rarer.1 This leads to three other challenges: which, where and how to place them to obtain maximum benefits with minimum side effects? As a result, more and more sophisticated equipment has emerged to make the surgeon's life easier, despite their increasing complexity and increasing costs. However, there is not necessarily an improvement in the cure rates of the disease, nor is the social reach of these processes expanded. Decision analysis will require a lot of thought before any targeting!

THE SURGEON AS TREATMENT AND THE CHALLENGES OF THE NEW

Once ingested or injected, the drugs act alone, at most and rarely with any adverse effect, most of the time tolerable and transient. And they will go through the entire metabolic pathway to their target organs, where they will act and then be inactivated and excreted. In turn, the surgeon is the one who performs these tasks, as a true "drug" that separates, stops, cuts and ties again. He leaves behind his footprints—the scars—the monumental work of macrophages and fibroblasts. The performance of the entire team, therefore, will be decisive both in the process and in the operative outcome. Not just by her, but for her too. There permeates aptitude, dexterity, values, vanity and humility. It sounds simple, but it's not, especially when it comes to operations and operators.

Like any human being, the surgeon is someone who makes choices. Those choices influence his decisions, which need to be made in a conscious and well-founded way.

Conscience leads us to Ethics; foundation, to Science! Therefore, it is essential to be aware of the established methods and the proper way of carrying them out. In this, the apprentice must apply himself, but not less than in the reception, preparation

[1]General Surgeon, Titular member of the Brazilian College of Surgeons
Associate Professor (retired) at the Faculty of Medicine of Universidade Federal de Goiás and at the School of Medical Sciences of PUC Goiás (Goiânia/GO)
ORCID: 0000-0001-5230-2789

and follow-up of patients. Why? To critically evaluate the indications, their performance and the results they obtained. The tactical options will point out what to do, in each case, and the operative technique, how to do it. This is how every surgeon works: he chooses a way that he most identifies with and improves on it. One by one, he lists, in his time, his priorities and therapeutic alternatives. The selection, however, is always personal...

Assimilating a new procedure is very difficult for the specialist, whose performance is confused with the treatment itself. It means, in its arithmetic, to give up something, which it was difficult to master, and replace it with something else, which he is completely unaware of. It is not enough to present it, first it will have to be criticised, evaluated, tested, reevaluated and, finally, recognized. And once adopted, it remains to be endorsed. It is a long process for any surgeon, which involves dissatisfaction, curiosity, availability and willingness to seek and, most of all, time. In the meantime, the surgeon needs to be convinced that a new alternative is better than his own. Whether it will be or not, that same time will endorse.

AUTHORSHIP AND AUTHOR

In January 1971, a new proposal was published in Brazil to correct longitudinal IH, which met the conditions of the time.[2] The synthetic prostheses were still being developed, especially here in the tropics, and what was basically available were the anatomical structures of the patient. In the proposal, the hernial sac itself, split in half, and two alternating relaxing incisions, in the sheath of the rectus muscles, would be enough to repair the wall through the transposition of these flaps. It was therefore called "bilateral longitudinal peritoneum-aponeurotic transposition" (TRANSPALB). Since then, having passed through half a century of constant medical innovation, it continues to give the vast majority of patients an active and aesthetically acceptable abdominal wall. Its idealizer? The surgeon and professor, Alcino Lázaro da Silva (figure 1).

Figure 1. Prof. Alcino Lázaro da Silva.

Born in Guaranésia, in the south of Minas Gerais, he entered the same school from which he would only leave as Full Professor and then Emeritus — the School of Medicine of the Federal University of Minas Gerais (FM-UFMG). This period lasted from 1954 to 2006, when he exercised intense assistance and academic activity, both for undergraduate and graduate students. He supervised many clinical and experimental theses on the method he conceived. On May 23, 2000, he took office at the National Academy of Medicine, occupying chair 61.

THE PIONEER IN GOIÁS

Born in Pires do Rio, in southeastern Goiás, Lourival Antonino Ferreira (figure 2) studied medicine at UFMG, in Belo Horizonte, between 1964 and 1968 — "the years of lead"

— a period of political turmoil. He was part of the first class that would graduate in five years, along with 159 other colleagues. During the course of Medical Anatomy, four students took turns dissecting whole cadavers (and they did it more than once), under the watchful eyes of one assistant per table! At the time, perhaps because of the solid anatomical foundation he had acquired, he had already decided on a surgical career.

Figure 2. Dr. Lourival Antonino Ferreira

His specialisation would take place at the Hospitals Cruz Vermelha and Borges da Costa, both under the aegis of the former professor, Prof. João Baptista de Resende Alves. Before that, he would have a very brief stint (one week) in Cardiovascular Surgery at Hospital de Base, in Brasília, where he was first approved. Fate wanted him to complete his studies, now in General Surgery, at the same institution where he graduated. Only five places were offered in the contest for the medical residency at UFMG, and he had been left as a surplus in sixth place.

In that year of 1969, the service won another vacancy, after the public notice, and it was occupied by the fortunate man from Goiás! Geraldo Boaventura Leite Sobrinho, Luiz Gonzaga Pimenta and, of course, Alcino Lázaro da Silva himself participated in his training. In addition to the care tasks, the residents also acted as Teaching Instructors in the discipline of Operative Technique and Experimental Surgery, led by Prof. Resende Alves. In 1970, he participated in the 1st. Congress of the National Association of Resident Doctors, which took place in the capital of Minas Gerais.

Already a general surgeon, he returned to Pires do Rio with packed bags at the beginning of the following year, to work at Hospital e Maternity Santa Rita. Registered on January 11, 1971 at the Regional Council of Medicine of the State of Goiás, under number 1,065, from the beginning he could count on a gynaecologist colleague, who was also accredited in Anaesthesia, in addition to two others who helped him in the operations.

On the 1st. December of that same year, Ms. LBR, 50, was admitted there for a cholecystectomy — 353 gallstones! — and transduodenal papillosphincterotomy, probably due to oddi dysfunction, through a right Lennander incision, that is, a supraumbilical internal pararectal paramedian laparotomy. To close the wall, simple catgut was used, in the peritoneum together with the posterior leaflet of the rectus muscle sheath, and in its anterior layer, the chrome modality, both with separate stitches. She had significant biliary drainage through the surgical wound and the Penrose drain, left in the subhepatic space. With progressively reduced drainage, the patient was discharged 20 days later in excellent condition. In fact, her general condition was not compromised during the entire period of hospitalisation (figure 3).

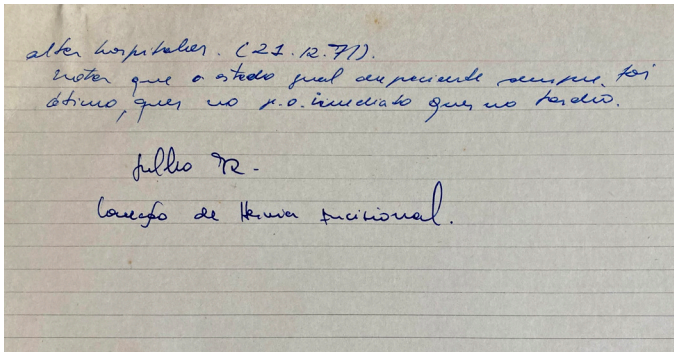
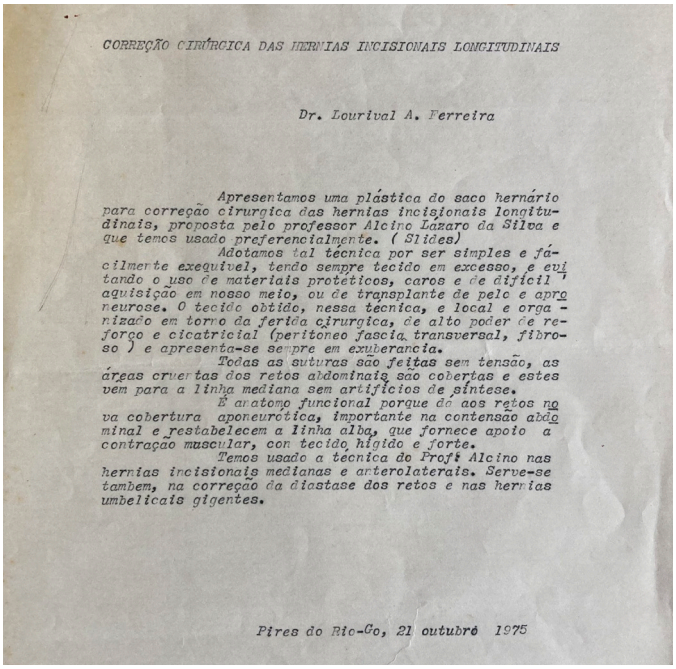


Figure 3. Record of the first Transposition of the Hernial Sac in Goiás.

It evolved with an inevitable incisional hernia, which was corrected seven months later, in July 1972, through transposition of the hernia sac. Here he also used 0 gauge chrome catgut wire in overcast. Some time later, the patient complained of a small recurrence at the lower angle of the scar, which was promptly repaired by her physician. She did not report any other complications until her death, which occurred several years later from natural causes (personal communication). The hospital closed its activities between 2000 and 2001, which made access to the SAME medical records unfeasible. Surely, not by reading the original article, still recently published, but by having worked with Prof. Alcino on some of the cases that made up that initial series, his proficiency in the method allowed him to reciprocate what he had learned from the master himself. Nothing could be more genuine, by the way!

During the 1st. Congress of Surgery of the Brazilian Midwest and the 5th. Regional Conference of Surgery of the Brazilian College of Surgeons, held jointly in Brasília/DF, from November 11 to 15, 1975, presented a free theme entitled "Surgical correction of longitudinal incisional hernias". In addition to exposing the proposal prepared by Professor Alcino to colleagues in the region, he justified his preference for it, now based on his personal experience with the method (Figures 4 and 5).



CORREÇÃO CIRÚRGICA DAS HERNIAS INCISIONAIS LONGITUDINAIS

Dr. Lourival A. Ferreira

Apresentamos uma plástica do saco hernário para correção cirurgica das hernias incisionais longitudinais, proposta pelo professor Alcino Lázaro da Silva e que temos usado preferencialmente. (Slides)

Adotamos tal técnica por ser simples e fácilmente exequivel, tendo sempre tecido em excesso, e evitando o uso de materiais protéticos, caros e de difícil aquisição em nosso meio, ou de transplante de pelc e aponeurose. O tecido obtido, nessa técnica, e local e organizado em torno da ferida cirurgica, de alto poder de reforço e cicatricial (peritoneo fascia transversal, fibroso) e apresenta-se sempre em exuberancia.

Todas as suturas são feitas sem tensão, as áreas cruentas dos retos abdominais são cobertas e estes vem para a linha mediana sem artifícios de síntese.

É anatomo funcional porque dá aos retos nova cobertura aponeurótica, importante na contensão abdominal e restabelecem a linha alba, que fornece apoio a contração muscular, con tecido hígido e forte.

Temos usado a técnica do Profº Alcino nas hernias incisionais medianas e anterolaterais. Serve-se tambem, na correção da diastase dos retos e nas hernias umbelicais gigentes.

Pires do Rio-Go, 21 outubro 1975

Figure 4. Summary of the first presentation in the Midwest.

I CONGRESSO DE CIRURGIA DO CENTRO OESTE BRASILEIRO
V JORNADA REGIONAL DE CIRURGIA DO COLÉGIO BRASILEIRO DE CIRURGIÕES
Brasília: 11 a 15 de Novembro de 1975

CERTIFICADO

Certificamos que o Dr. LOURIVAL ANTONINO FERREIRA

Participou como membro efetivo, apresentando como autor o Tema Livre "CORREÇÃO CIRÚRGICA DAS HERNIAS INCISIONAIS LONGITUDINAIS".

Brasília, 15 de Novembro de 1975

Dr. Helio Barbosa — Mestre do Capítulo do Distrito Federal
Coordenador do Curso
Dr. José Walter Marinho Dias — 1º Secretário

Figure 5. Certificate of the first presentation in the Midwest.

In light of these facts, Lourival Antonino Ferreira was the first surgeon to perform, in the state of Goiás (and certainly in the Midwest Region), what he called "the technique of Prof. Alcino" exactly 50 years ago. It is also very likely that he is given primacy for having carried it out beyond the borders of Minas Gerais.

ARRIVAL IN GOIÂNIA

Manoel Maria Pereira dos Santos (figure 6), former Professor of the Department of Surgery at the School of Medicine of the Federal University of Goiás (FM-UFG), obtained his doctorate from the sister institution of Belo Horizonte (FM-UFMG), between 1976 and 1979, working in one of the research lines of Prof. Alcino. On his various trips to and from Minas, he became aware of TRANSPALB "at the source" and did not hesitate to demonstrate it to his professors, residents and students.

Figure 6. Prof. Manoel Maria Pereira dos Santos.

Among them were Romeu Fernandes de Carvalho (figure 7) and Joel Neder. Together they had completed their undergraduate studies at FM-UFG (1967-1972) and residency at Hospital das Clínicas (HC) in the following biennium. During his PhD, Prof. Manoel Maria invited them to join the Surgery service he headed at Santa Casa de Misericórdia de Goiânia (SCMG). At the time, it still operated in the original building, which later gave way to the capital's Convention Centre. Romeu would later teach at the same college, as well as at HC, for two uninterrupted decades (1979-1999), training new doctors and surgeons.

In the mid-1980s, the new facilities of the philanthropic SCMG were inaugurated. It was in this scenario, one of the main centres of reference in Goiás in medical care for the population,

Figure 7. Prof. Romeu Fernandes de Carvalho.

that Prof. Romeu has consolidated his experience in the repair of IH, especially using the Hernial Sac Transposition method. And it was there that he also began to teach her with indisputable propriety. Many patients from Goiás and other Brazilian states benefited from the impeccable performance of this surgeon and his disciples.

Alongside his contemporary, Joel, and Hélio Ponciano Trevenzol, also trained at the same School, Prof. Romeu installed the Medical Residency in General Surgery at SCMG. Other colleagues joined them, as regular training in surgery was already offered there, although not in the same way. Later, Luiz Carlos Pedreira Barros and Luiz Carlos Martins de Morais, also alumni of the HC, joined – the latter would become one of the great protagonists of the "transposition". Of the third generation of surgeons, Edson Tadeu de Mendonça and Jorge Luiz de Carvalho also stood out, for consenting to the adoption of the "hernial sac surgery". Together, they were the ones who performed this operation the most during the period they stayed at SCMG.

If Prof. Manoel Maria was the great emissary who brought Lázaro da Silva's proposal to Goiânia, it was through the diligent hands and lucid determination of Prof. Romeu Fernandes de Carvalho, that it settled in the Brazilian capital of Art Deco.

THE ADVANCE

Completing the most popular assistance and medical training tripod at the time, the way in which the Hernial Sac Transposition arrived at the General Hospital of Goiânia (HGG) disobeyed that waterfall. In fact, one can swear that it literally took place through the work of the Holy Spirit!

Graduated from Santa Casa de Misericórdia de Vitória School of Medicine, better known as EMESCAM (1977-1982), Rossini Cipriano Gama (figure 8) left his hometown and came to specialise in General Surgery at HGG. This was in 1983 and 1984, during his initial training. In the following biennium, he completed his surgical training, specialising in Coloproctology at the same service. Faced with the various cases of IH that were concentrated there, he presented Lázaro da Silva's procedure to preceptors and other residents, as he already knew it and practised it with his undergraduate professors, Danilo Nagib Salomão Paulo, Álvaro Armando Carvalho de Moraes and Alvino Jorge War. Given the strong connection of this group with that of Prof. Alcino, his method was widely spread in Espírito Santo territory.

FAs a result of this experience, the first publication from Goiás on the Hernial Sac Transposition resulted in 1985, headed by the then Head of the Surgical Clinic at the HGG and professor of the discipline of Operative Technique and Experimental Surgery at FM-UFG, Adelino Araújo dos Santos (figure 9).

Figure 8. Dr. Rossini Cipriano Gama.

This is a study involving the 17 initial cases, operated on during the period in which Rossini attended the service, also integrating the list of authors of the article (figure 10). About ⅔ of the patients were women, the mean age was 53 years and more than 40% of the hernias were located in the infraumbilical region. No recurrences were observed in the present series.[3]

Also a former student at FM-UFG, Félix André Sanches Penhavel (figure 11), during his internship in 1979, participated in surgeries and in several discussions with Prof. Manoel Maria on the method of Lázaro da Silva, intended for academics and residents of HC.

Figure 9. Prof. Adelino Araújo dos Santos.

TRATAMENTO CIRÚRGICO DAS HÉRNIAS INCISIONAIS

Adelino Araújo dos Santos ☆
Dejânia Nonato Rodrigues ☆☆
Alcir de Souza Prudente ☆☆
Rossini Cipriano Gama ☆☆

RESUMO

Os autores analisam os resultados obtidos com o tratamento das grandes hérnias incisionais abdominais tratadas cirurgicamente pela técnica de Alcino Lázaro da Silva. O acompanhamento durante dezoito meses não mostrou recidiva com a referida técnica.

INTRODUÇÃO

A hérnia incisional é também chamada eventração, laparocele, hérnia pós-operatória ou hérnia cicatricial. São originadas em áreas anormalmente enfraquecidas por traumatismos ou incisões cirúrgicas e portanto, a maioria são iatrogênicas.

Não há informações precisas sobre a incidência das mesmas na população em geral. Os maus resultados não são comunicados ou são negligenciados, mas as cifras variam de 1,3% a 11,5%. Como na sua origem temos fatores ligados ao ambiente e ao paciente, a prevenção das eventrações e as cifras de incidência poderiam permanecer em níveis aceitáveis se fossem obedecidos os princípios fundamentais de uma cirurgia como: incisão cirúrgica adequada, prevenção da contaminação da ferida, prevenção da inervação regional, correção de obesidade, desnutrição, anemia e doenças respiratórias.

A prevenção global, sabemos que é impossível pois ainda restaria o fator individual, as variações anatômicas e o processo patológicos concomitantes.

MATERIAL E MÉTODO

O trabalho foi realizado no Serviço de Cirurgia Geral do Hospital Geral de Goiânia - INAMPS.

No período de dezoito meses foram operados 17 pacientes portadores de grandes hérnias incisionais longitudinais abdominais, usando a técnica de Alcino Lázaro da Silva.

Dentre os pacientes, 5(29,4%) eram do sexo masculino e 12(70,6%) do sexo feminino.

Quanto à idade predominou entre a faixa de 31 a 50 anos (52,9%). Quadro I.

Na investigação clínica dos pacientes procurou-se diagnosticar patologias associadas, algumas das quais passam ser co-adjuvantes na gênese da hérnia incisional no pós-operatório. Um dos pacientes era portador de hipertensão arterial, um de doença pulmonar obstrutiva crônica e seis eram grandes obesos.

As cirurgias prévias após as quais originaram as hérnias, houve predomínio das operações ginecológicas e obstétricas, atingindo 35,3% dos casos. (Quadro II), sendo que em um dos prontuários não constava dados sobre a cirurgia prévia.

Segundo o tipo de incisão usada na operação anterior, as medianos inflaumbilicais representaram 43,12% do total, o que corresponde as estatísticas publicadas por outros autores. (Quadro III).

☆ Chefe da Clínica Cirúrgica do Hospital Geral - INAMPS.
☆☆ Residentes de Cirurgia Geral do Hospital Geral - INAMPS.

Figura 10. First article on the Hernial Sac Transposition in the Midwest, published in the Scientific Journal HGG-I-NAMPS in 1985.

He completed his surgical training at Santa Casa de Ribeirão Preto/SP. Upon returning to Goiânia, he came to work in the Emergency Room of the HGG and, after applying for a teaching position, he began a dedicated academic career at FM-UFG, teaching Human Anatomy, first, then Operative Technique and,

Figure 11. Prof. Félix André Sanches Penhavel.

finally, Surgical Clinic. His first of many transpositions was at the HGG in 1987, the year he transferred from the Emergency Room to the Surgical Clinic of that hospital.

Prof. Félix would become one of the great proponents of Lázaro da Silva's method, along with one of his most virtuous disciples, Fernando Corrêa Amorim, also a graduate and currently a professor at the same college. Both are responsible for the permanence of this alternative treatment for HI in the Goiás university environment. No surgeon that was used to performing the Hernial Sac Transposition, not even Prof. Alcino, summed up the conviction we perceived when he executed it so well, as did Prof. Felix. His expression, almost prophetic — "Alcino, we can't start, because if we start, we end up doing it."

ACKNOWLEDGEMENTS

This text was written based on reports personally obtained from colleagues listed here and who, with their generosity, shared these valuable testimonies. My sincere gratitude to them, which allowed the close bond between past and present, author and work to be kept inseparable.

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Epidemiological and obstetric profile of pregnant women with premature childbirth in a public maternity in Goiânia

Larissa Garcia Neves[1], Waldemar Naves do Amaral[2,3]

ABSTRACT

Introduction: *Pregnancy is a physiological phenomenon that can involve complications in the process of pregnancy and giving birth. Among them, Premature Labor (PPT), which represents a challenge for current public health and an aggravating factor for perinatal health, given that premature birth is the biggest risk factor for infant morbidity and mortality in the world.* **Objectives:** *To describe the epidemiological and obstetric profile of pregnant women with preterm birth.* **Methods:** *This is a cross-sectional, descriptive and retrospective study with a quantitative approach.* ***Results:*** *145 medical records of pregnant women attended at the Hospital and Maternity Dona Íris, from February to August and who had premature labor were analyzed. The women's age ranged from 13 to 43 years (27.83±6.38) and the mean gestational age at delivery was 34.36±2.39 (24 to 36 weeks). These were single women (61.4%), with an education level of around 8 years of study, that is, complete high school (45.5%), followed by complete higher education (13.1%) and incomplete high school (12.4%). Regarding the health profile, the most frequent blood type was O+, followed by A+ and B+, representing 36.6; 31.0 and 12.4%, respectively. When performing serology for HIV and Syphilis, 9 (6.2%) cases of gestational syphilis were reported, all women who had a rapid HIV test result were non-reactive. It was observed that most women did not have comorbidities during pregnancy (65.5%) and of those who did (13.1%), the most prevalent were Pregnancy-Specific Hypertensive Disease, followed by Gestational Diabetes mellitus (6.9 %). As for gestational outcomes, most deliveries were cesarean, and single-fetus pregnancy (79.3%). Analysis of the women's obstetric history shows that the majority (31.0%) of women had two previous pregnancies, followed by 23.4% with one and three pregnancies, respectively. Regarding previous births, there was a predominance of two births (33.8%), followed by one and three births, with 31.7 and 17.2%, respectively. Abortion cases were observed in 23.5% of women. The minimum number of prenatal consultations was none and the maximum was 15, with a mean of 6.12±2.78 consultations. Most women (15.9%) had seven appointments, followed by 14.5% with eight appointments and 12.4% with five and six appointments, respectively. Regarding neonatal outcomes, Apgar scores ranged from 0 to 10 (7.31±2.0) for the first minute and 0 to 10 (8.60±1.65) for the fifth minute.*

Conclusion: *The sociodemographic profile is of women with an average age of 27 years, single and having completed high school. The characterization of clinical and obstetric conditions and blood type O+, non-reactive for syphilis and HIV and no comorbidities. With two previous pregnancies, two births, no miscarriages and a*

[1]Gynecologist and obstetrician at Hospital e Maternidade Dona Iris
[2]Physician Full Professor at the Universidade de São Paulo
[3]Professor at Universidade Federal de Goiás

single fetus. The obstetric cause that most contributed to premature labor was the Premature Rupture of Membranes (ROPREMA).
Descritores: *Parto prematuro, Gestação, Perfil sócio-demográfico*

INTRODUCTION

Pregnancy is a physiological phenomenon that can involve complications in the process of gestating and giving birth. Among them, Preterm Birth (PTB), which represents a challenge for current public health and an aggravating factor for perinatal health, given that premature birth is the greatest risk factor for infant morbidity and mortality in the world[1].

Preterm birth is defined as one that occurs before 37 completed weeks of gestation, calculated from the first day of the last menstrual period. During this period, PTB is characterised by the presence of rhythmic contractions that accompany changes in the uterine cervix, such as dilation and effacement[2,3]. Prematurity is categorised according to Gestational Age (GA), with late prematurity between 34 and 36 weeks, moderate prematurity, 31 to 33 weeks, severe prematurity, 28 to 30 weeks and extreme prematurity, less than 28 weeks[2,4] .

The determining factors of PTB are classified as spontaneous, due to Premature Rupture of Amniotic Membranes (PROM) and provoked, when initiated by medical interventions through induction or caesarean section[4]. Obstetric factors, in addition to the presence of chronic comorbidities or those developed during pregnancy, can predispose to PTB, such as hypertensive syndromes, gestational diabetes, twins and urinary and reproductive tract infections. Among the fetal conditions, Intrauterine Growth Restriction (IUGR) and non-reassuring fetal pattern stand out[5]. Some epidemiological conditions also corroborate the incidence of PTB, such as multiparity, inadequate prenatal care, previous history of prematurity, extremes of age and low socioeconomic status[6]. Prematurity and its complications rank second among the main causes of death in children under five, with 14%, surpassed only by pneumonia, with 18%. Still, it represents the main cause of neonatal mortality, up to 27 days of life, approaching 1.1 million deaths per year in the world. Adequate prenatal care, as well as low-cost interventions, could prevent most deaths in this population.

It is estimated that the worldwide incidence of prematurity is approximately 15 million cases per year8. Brazil and the United States are among the ten countries with the highest numbers of premature births. In this context, Brazil ranks tenth, with 279,000 premature births per year, with a prevalence of 9.2%[4]. Studies indicate a growing trend for prematurity in Brazil and states, the north and northeast regions have the highest prevalence and in Goiás, the mortality rate between 2012 and 2016 was 10.5%[4].

It is worth mentioning that part of the morbidity and mortality related to prematurity could be avoided if the women received adequate prenatal and intrapartum care. Considering the multiple causes of PTB, it is known, therefore, that social, economic, environmental factors and health conditions corroborate prematurity. In addition, preterm births generate costs for the family and the health system, given that they require structured and specialised care.

In this sense, in view of the growing situation of PTB, it was considered relevant to study the theme, as it was observed that there was a considerable number of pregnant women admitted with a diagnosis of PTB in the research scenario, in which the majority had premature births or their deliveries were performed because of the risk of death to the woman or fetus. Understanding the factors that influence PTB and the profile of pregnant women can support management and care actions and strategies.

Therefore, the objective of this study is to evaluate the epidemiological and obstetrical profile of pregnant women with premature birth in a public maternity hospital of reference for the State of Goiás, located in Goiânia.

METHODS

This is a cross-sectional, descriptive and retrospective study with a quantitative approach. This study was carried out at Hospital e Maternidade Dona Iris, located in Goiânia, Goiás. Of public character, it acts as a reference service for the municipality and metropolitan region, focusing on gynaecological, obstetric and newborn care, among others.

The sample consisted of 58 physical and/or electronic medical records and entries in computerised spreadsheets of women with pregnancies with preterm birth, assisted at the study site between the months of February and August 2021. Records with information were excluded. incomplete and/or inconclusive or that were unavailable at the time of data collection.

The following variables were considered: age, education, marital status, type of delivery, gestational age, number of prenatal consultations, twins, gynaecological/obstetric history, presence of maternal comorbidities, mode of delivery, serological status for the Human Immunodeficiency Virus (HIV) and Syphilis, blood typing and the newborns' Apgar score of 1st and 5th minute.

The project was submitted to the Research Ethics Committee (CEP) of Hospital e Maternidade Dona Íris, respecting the Regulatory Guidelines and Norms for carrying out research involving human beings, established in Resolution 466/12 of the National Health Council/MS, receiving a favourable opinion.

The collected data were initially stored in an electronic spreadsheet using the Microsoft Excel® program. After validation and evaluation of the database's consistency, it was exported to the SPSS® (Statistical Package for Social Science) software, version 23, where data analysis was performed. Descriptive analysis was performed, obtaining measures of central tendency

(mean and median) and dispersion (minimum, maximum and standard deviation) for quantitative variables (discrete and/or continuous). Nominal categorical variables (dichotomous and/or polytomous) were described using relative and absolute frequency distribution analysis.

RESULTS

A total of 145 medical records of pregnant women attending Hospital e Maternidade Dona Íris, from February to August, who had premature labour were analysed. The age of the women ranged from 13 to 43 years (27.83±6.38) and the mean gestational age at delivery was 34.36±2.39 (24 to 36 weeks). As described in Table 1, they were single women (61.4%), with a level of education around 8 years of study, that is, complete high school (45.5%), followed by complete higher education (13.1%) and incomplete high school (12.4%).

Regarding the health profile, the most frequent blood typing was O+, followed by A+ and B+, representing 36.6; 31.0 and 12.4%, respectively. In the performance of serology for HIV and Syphilis, 9 (6.2%) cases of gestational syphilis were reported, all women who had a rapid HIV test result were non-reactive. It was observed that most women had no comorbidities during pregnancy (65.5%) and of those who did (13.1%), the most prevalent were Pregnancy-Specific Hypertensive Disease, followed by gestational diabetes mellitus (6.9 %), as described in Table 2.

Regarding gestational outcomes, most deliveries were caesarean, and single-fetus pregnancies (79.3%). Analysis of the women's obstetric history shows that the majority (31.0%) of the women had two previous pregnancies, followed by 23.4% with one and three pregnancies, respectively. Regarding previous deliveries, there was a predominance of two deliveries (33.8%), followed by one and three deliveries, with 31.7 and 17.2%, respectively. Abortion cases were observed in 23.5% of women. The minimum number of prenatal consultations was none and a maximum of 15, with a mean of 6.12±2.78 consultations. Most women (15.9%) had seven consultations, followed by 14.5% with eight consultations and 12.4% with five and six consultations, respectively. Regarding neonatal outcomes, the Apgar values observed were from 0 to 10 (7.31±2.0) for the first minute and 0 to 10 (8.60±1.65) for the fifth minute. Other information on gestational outcomes can be evaluated in Table 3.

DISCUSSION

Preterm birth is currently considered a risk factor for infant morbidity and mortality, not only in the immediate neonatal period, but also in early childhood, extending into adulthood. It is known that factors that accompany social vulnerability (teenage pregnancy, low education and inadequate prenatal care) are associated with the occurrence of spontaneous preterm birth. A study conducted by Morisakiet al., (2014), shows that the risk factors for the occurrence of births before the 37th week of gestation are related to lower social conditions for women. Although maternal income was not evaluated as a risk factor for preterm birth, it was possible to identify that the minimum age of women was 13, a risk factor for the occurrence of premature births, confirming the findings of the aforementioned author10.

Corroborating the findings of this investigation, Azevedo et al. (2015) point out that about half of the live births in the early 2000s were children of mothers up to 24 years of age and, of this total, approximately 1% of mothers of the age group lower than 14 years; 20.6% of mothers aged 15 to 19 years; and 29.9% of mothers aged between 20 and 24 years[11].

As for schooling, in this investigation, cases of women with eight years of schooling were prevalent. For Santos et al. (2014), women with inadequate education for their age were associated with prematurity and these women are twice as likely to have preterm birth. Thus, it is possible to infer that education is a variable determined by socioeconomic conditions, a factor known as a determinant for the occurrence of preterm birth[12].

It is important to highlight the relationship between adherence to prenatal consultations and the adverse effects of pregnancy. Prenatal care is considered an important component for the identification of complications and comorbidities in the gestational period. Carvalho et al.(2021) highlights that adequate medical monitoring during pregnancy can be seen as a compensatory health policy, with the role of minimising the effect of social and economic inequalities[13].

In this investigation, the average number of prenatal consultations was 6.77. It should be noted that prenatal care enables the diagnosis and treatment of numerous complications during pregnancy and the reduction or elimination of correctable risk factors and behaviours. For Araújo et al., (2014), the number of prenatal care consultations is directly related to the opportunity to perform preventive care and health promotion, especially in high-risk pregnancies, with greater chances of improving perinatal outcomes[14].

It is important to highlight that poor and/or insufficient prenatal care, less than 5 consultations when completing 28 weeks of pregnancy, and having clinical complications during pregnancy increase the chances of prematurity by five and four times, respectively[15].

The epidemiological profile of women who went into labour prematurely is still not well defined, however there are some consensuses. The presence of comorbidities (Diabetes mellitus, arterial hypertension, heart disease, among others), obesity (BMI>25), recurrent urinary infections, extreme ages (<18 and >35 years), substance use (medicines, alcohol, tobacco, other drugs), vigorous physical activity and unfavourable obstetric history (previous treatment for infertility, previous caesarean delivery, previous PTB, among others) are the main factors related to preterm labour [16,17].

Congenital and perinatal infections, known as TORCHS (Toxoplasmosis, Rubella, Cytomegalovirus, Herpes Simplex and Syphilis) are associated with an increased risk of neonatal morbidity and mortality. In this investigation, the occurrence of gestational syphilis was observed in 5 (8.6%) women. National protocols recommend performing two VDRLs during pregnancy. The occurrence of any adverse pregnancy event is 52% higher among women with syphilis, as a result, it is recommended to reorganise care flows and actions, with the integration of local maternal and child programs, active search for pregnant women and partners without care and treatment.

VARIABLE	N	%
Marital status		
Single	89	61,4
Married	44	30,3
Divorced	5	3,4
Stable union	2	1,4
Widow	1	0,7
No information	4	2,8
Level of education		
Basic education	2	1,4
Incomplete Elementary School	10	6,9
Complete primary education	2	1,4
Incomplete High school	18	12,4
Complete High school	66	45,5
Incomplete Higher Education	14	9,7
Complete Higher Education	19	13,1
No information	14	9,7

Table 1. Perfil epidemiológico de gestantes com parto prematuro, atendidas em um serviço de referência na cidade de Goiânia/GO, 2021.
Fonte: Hospital e Maternidade Dona Íris, 2021.

In the present study, the Apgar score in the 5th minute of life from three to ten has a higher proportion in premature births, in line with the existing literature 18,19. Among preterm infants, there is a higher incidence of low Apgar scores and the prevalence of low Apgar scores is a relevant risk factor for morbidity and mortality among premature newborns20. According to Reddy et al. (2012) premature newborns were 359 times more likely to have neonatal death in the first week of life and more than 30 times more likely to have neonatal death up to 28 days of life21.

Among its limitations, we can highlight the lack of data socioeconomic and lifestyle factors in the women's medical records. As this is an observational and retrospective study, the low number of cases included may not reflect the characteristics of pregnancies and preterm deliveries. It is noteworthy that the recognition of modifiable and non-modifiable risk factors for preterm labour before conception or early in pregnancy will lead to interventions that will help prevent this complication.

VARIABLE	N	%
Blood type		
A+	45	31,0
B+	18	12,4
A-	3	2,1
B-	3	2,1
AB+	3	2,1
AB-	1	0,7
O+	53	36,6
O-	6	4,1
No information	13	9
SYPHILIS		
No Reagent	128	88,3
Reagent	9	6,2
No information	8	5,5
HIV		
No information	136	93,8
Reagent	--	--
No information	9	6,2
Comorbidities		
No maternal comorbidities	95	65,5
With maternal comorbidities	49	33,8
No information	1	0,7

Table 2. Perfil de saúde de gestantes com parto prematuro, atendidas em um serviço de referência na cidade de Goiânia/GO, 2021.
Fonte: Hospital e Maternidade Dona Íris, 2021.

The increase in the prevalence of prematurity is an event that worries health managers across the country and contrasts with the increase in technological development in medical care and the decrease in infant mortality. Prematurity is a complex public health problem, as it is a multifactorial issue that is interrelated and can vary in different populations. It is important to highlight the importance of carrying out studies for further clarification on the occurrence of preterm births, which seems to be influenced by determinants of maternal age, occurrence of comorbidities, caesarean delivery, as well as by maternal complications related to pregnancy among young adults.

VARIABLE	N	%
Pregnancies		
One pregnancy	34	23,4
Two pregnancies	45	31,0
Three pregnancies	34	23,4
Four pregnancies	12	8,3
Five pregnancies	5	3,4
Six pregnancies	3	2,1
Seven pregnancies	1	0,7
Eight pregnancies	1	0,7
No information	10	6,9
Delivery		
None	5	3,4
One delivery	46	31,7
Two deliveries	49	33,8

Three deliveries	25	17,2
Four deliveries	7	4,8
Five deliveries	1	0,7
Six deliveries	1	0,7
Seven deliveries	1	0,7
No information	10	6,9
Abortions		
No abortions	101	69,7
One abortion	29	20,0
Two abortions	2	1,4
Three abortions	2	1,4
Four abortions	1	0,7
No information	10	6,9
Twinning		
Single fetus	115	79,3
Twins	30	20,7

Table 3. Antecedentes ginecológicos de gestantes com parto prematuro, atendidas em um serviço de referência na cidade de Goiânia/GO, 2021.
Fonte: Hospital e Maternidade Dona Íris, 2021.

CONCLUSION

- The sociodemographic profile is of women with an average age of 27 years, single with complete high school.
- The characterization of clinical and obstetric conditions and O+ blood type, non-reactive for syphilis and HIV and without comorbidities. With two previous pregnancies, two deliveries, no miscarriages and a single fetus.
- The obstetric cause that most contributed to preterm labour was Premature Rupture of Membranes (PROM).

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REVIEW ARTICLE

The effectiveness of the mini-cex assessment in medical internship and residency

Sérgio Mota da Silva Júnior[1,2], Tárik Kassem Saidah[4,5,6],
Marcos Rassi Fernandes[3], Waldemar Naves do Amaral[7,8]

ABSTRACT

Introduction: O mini-CEX is a method of assessment of clinical skills developed by the American Board of Internal Medicine in 1990 for medical education. ***Objective:*** *to determine the effectiveness of the evaluation of mini-CEX in medical internship and residency.* ***Methods:*** *This is a systematic review that follows the PRISMA items. It was done by searching PubMed and BVS. Results: 49 items were selected as the eligibility filters for the purposes of Prisma, 10 items that were integrated for review were subtracted.* ***Conclusion:*** *the mini-CEX has an important applicability and reproducibility in other cultures. Obtain a reliable measure of performance appraisal. It is about a method capable of carrying out a formative evaluation of the individual, being important and necessary more than an evaluation and furthermore that feedback is provided with the quality that it will directly impact the final result of the training of the individual.*

Descritores: *Mini-CEX, Medical evaluation; medical residency; medical internship.*

INTRODUCTION

There is no accurate assessment of medical students or even medical residents. Most internships use summative ratings to assess clinical skills. The mini-Clinical Evaluation Exercise (CEX) is a clinical skills assessment method developed by the American Board of Internal Medicine in 1990 for medical education[1].

The mini-CEX is a kind of test where the evaluator observes the evaluated intern/resident in a clinical situation. A mini-CEX is not an exam, but a useful educational tool to monitor and promote the resident's development. In its original form, the mini-CEX is a 9-point rating scale organised into three levels; unsatisfactory (1–3), satisfactory (4–6) and very satisfactory (7–9). A specialist, usually a faculty member, observes the trainees' actual performance, assesses their anamnesis and physical examination skills, and provides feedback [2,3].

The core concepts of a good mini-CEX are 'short' (limited in both content and duration) and 'frequent' (the more frequent the better). It is important that the evaluator provides feedback as soon as possible after the evaluation; this feedback should be constructive and task-oriented and be presented to the resident in a reliable manner. Multiple observations by different evaluators will ensure that the overall picture of the resident's progress is more reliable[4].

The mini-CEX that assesses residents in a much wider range of clinical situations has better reproducibility and offers residents greater opportunity for observation and feedback by more than one faculty member and with more than one patient[5]. The aim of this study was to determine the effectiveness of the mini-CEXs assessment in boarding or residency settings.

METHODS

This is a systematic review that follows the PRISMA items. It was performed in PubMed and in the VHL. The search strategy ended on June 14, 2021. The search terms included a combination of MeSH terms: MINICEX AND EVALUATION AND MEDICINE. The date filter (last 5 years) was applied. (Flowchart 1).

[1]Master's student at Universidade Federal de Goiás
[2]Professor at Universidade Evangélica de Goiás
[3]PhD in Health Sciences and Associate Professor at the Department of Orthopaedics and Traumatology at the Faculty of Medicine of Universidade Federal de Goiás
[4]Gynecologist
[5]Professor at Universidade Federal de Goiás and UniEvangélica
[6]PhD in Health Sciences from UFG
[7]Physician Full Professor at the Universidade de São Paulo
[8]Full Professor at Universidade Federal de Goiás

The PVO strategy was applied, used to determine the inclusion criteria: P (Problem): "MINI-CEX", V (Conflict): "Students or residents", O (Outcomes): "How effective is the Mini-CEX application in training?".

A spreadsheet was created in the Microsoft Excel R program for data extraction. Thus, through the extraction of data, the organisation and summarization of the information continued.

RESULTS

49 articles were selected and with the eligibility filters proposed by Prisma, 10 articles were left that are part of the review. The summary is in table 1.

DISCUSSION

The studies evaluated were positive in relation to the mini--CEX. Although it has been developed and validated in other cultures, it has a high rate of applicability. Eggleton et al., (2016) reveal that the mini-CEX provides a reliable measure of performance evaluation. However, they may be less helpful in identifying outstanding performance or weaknesses in key competencies. In addition, care must be taken in relying on mini-CEXs to provide a summative assessment[6].

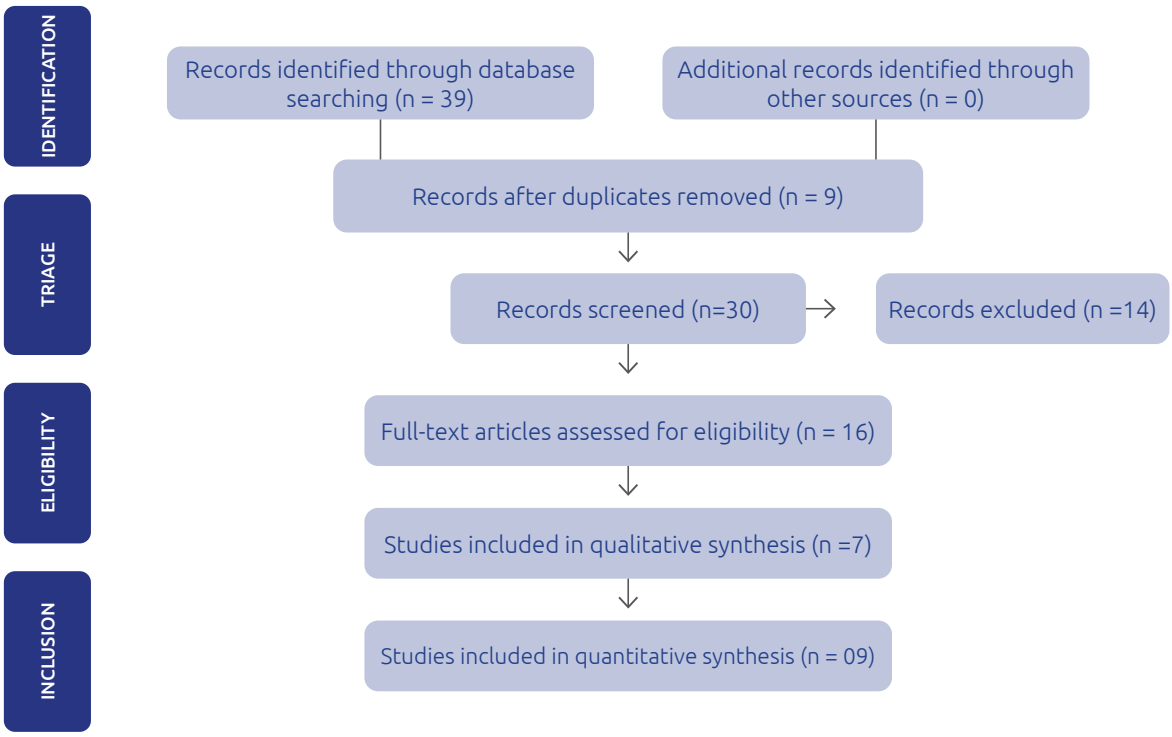
A study carried out with 20 students showed a high level of satisfaction with the mini-CEX assessment, proving its potential to be incorporated into the formative assessment of students[7]. Oliveira, Appenzeller, Caldas (2020) when analysing 111 students with the application of the Mini-CEX, observed that the instrument proved to be capable of providing important and useful information, as part of a program evaluation of the areas prior to the internship, and its result served as a guide to what should deserve attention. of professors from the semesters that precede the internship[8].

A negative point is that students observed individually may feel insecure and therefore need time to get used to being observed individually by specialists. Therefore, more than one assessment must be carried out[9].

After applying the test three times throughout the year in the same group of residents, the evolution of scores was observed over time and statistically compared. An improvement in scores was evident in most skills[10].

Pottier et al., (2018) warn that the score should not be taken into account in the evaluation process due to its great variability, it can be interesting for monitoring the progression in skills11.

Mini-CEX supports the learning of practical skills by promoting learning success primarily through feedback and individual learning support[12].



Flowchart 1.

Sudarso et al., (2016) highlights that in addition to the demand for tasks and system design, feedback also plays a role in the students' learning process. In addition, feedback on summative assessment can also affect students' learning process. Another point is that they can be influenced by impact assessment (consequences), response assessment and

AUTHORS/YEAR/PLACE	OBJECTIVE	N	RESULTS
Eggleton et al., 2016 Nova Zelândia	Measure their inter-examiner reliability in the evaluation of medical students in general practice settings.	100	Mean mini-CEX scores increased as standardised performance increased, indicating that GPs reliably agreed on ranking student performance from poor to very good. The intraclass correlation coefficient (ICC) for general clinical competence was 0.78 (95% confidence interval 0.48-0.99), indicating good reliability regarding the agreement between them. Cronbach's alpha calculated from the general scores was 0.85, indicating good internal consistency.
Martinsen et al., 2020 Noruega	Evaluate the mini-Clinical Assessment Exercise (mini-CEX) as a formative assessment tool among undergraduate medical students, in terms of student perceptions, effects on direct observation and feedback, and educational impact.	38	Overall, there were no statistically significant differences between groups in the amount reported or the quality of direct observation and feedback. The mean scores observed were marginally higher on the OSCE and the written test in the intervention group, but not statistically significant.
Khalil, Aggarwal, Mishra 2017 India	Implement the Mini-CEX, a workplace-based assessment tool, for formative assessment of the clinical skills of final-year pediatric graduate residents.	20	They concluded that 84% and 58% of students and teachers, respectively, were satisfied with their encounter with the Mini-CEX (score >8 on a 10-point Likert scale). 90% of participating students consider that the Mini-CEX should be included as a routine in postgraduate education. All six teachers thought they had a good experience, but 50% were not sure if it was a valid assessment method.
Oliveira, Appenzeller, Caldas, 2020 Brasil	Use the MiniCex as part of a program evaluation at the beginning of the medical course, in order to determine the areas of the basic and pre-clinical course in which the student has deficiencies.	111	Among the evaluations performed, with 97.2% requested by the teachers, the majority (72%) were new cases, 45% and 38.7% of low and moderate complexity, respectively. There was a predominance of disorders of the musculoskeletal system (27.7%), followed by the gastrointestinal system/hepatology (14.8%). As for skills in each domain, sufficient performance was obtained in all. It was observed that 12.6% of the students had a deficiency in at least one area, which was followed by 6.3% of students who were insufficient in two areas and 4.5% with unsatisfactory performance in three or more areas.
Suhoyo et al., 2020 Paises Baixos	Explore the appreciation of Indonesian students and experts on the implementation of the Clinical Assessment Mini-Exercise (Mini-CEX) in Indonesian stages.	124	The Mann-Whitney U test showed that there were no significant differences between the opinions of students and experts on the mini-CEX, except for 2 items: the experts' assessment of direct observation (mean rating = 93.16) was statistically significantly higher than students' appreciation of it (average rating = 77.93; $z = 2.065$; $p < 0.05$), but students' appreciation of the item than students' previous mini-CEX results affected their recent mini-CEX results (average rating = 85.29) was significantly greater than expert judgement (average rating = 69.12; $z = 2140$; $p < 0.05$).

Sudarso et al., 2016 Indonésia	Explore students' learning response to feedback during the mini-CEX meeting	24	The content of the feedback and the way to provide feedback on the internal process of the students stimulated by the mini-CEX, including self-reflection, emotional response and motivation. These internal processes encouraged students to act or follow up on feedback to improve their learning process. In addition, there was also an external factor, namely consequences, which also influenced the students' reaction to following the feedback. In the end, this action caused several learning effects that resulted in an increase in students' self-efficacy, attitude, knowledge and clinical skill.
Weissenbacher et al., 2020 Alemanha	Examine the extent to which a mentoring-based curriculum with on-the-job exams in the practical year can make a valuable contribution to this.	32	Prioritisation and testing of clinical-practical competences by mentors made demand-oriented, high-quality training possible. Tutoring and feedback were evaluated positively and supported learning success (grade 1.5). Most participants considered the exam format to be unknown (64.6%), but useful and meaningful (76.7%). The curriculum made students feel well prepared for the state exam (81.3%) and for the beginning of their careers (71.0%). This was accompanied by a high level of satisfaction (grade 1.7)
Olascoaga, Riquelme 2019 Peru	Evaluate your results over time and determine their validity and reliability.	14	Observations lasted 46.5 ± 26.1 minutes and feedback 20.1 ± 11.1 minutes. Factor analysis found a dimension. The overall Cronbach's alpha score was 0.92. There was a significant improvement in residents in Physical Examination, from 6 (5.8-7.0) to 7.5 (6.8-8.0) p =. 028, clinical judgement, from 6 (6.0-7.2) to 8 (7.0-8.2) p = 0.021, and general assessment, from 7 (6, 0-7.6) to 8 (7-8) p =. 043. Residents' and teachers' satisfaction levels with the method were 8/9 and 9/9, respectively.
Pottier et al., 2018 França	Assess the reproducibility and validity of two assessment forms based on direct clinical observation.	16	Inter-rater reproducibility was satisfactory for the MINI-CEX intraclass coefficients (ICC) between 0.4 and 0.8 and moderate for the SPSQ ICC between 0.2 and 0.7 with good internal coherence for both questionnaires. (Cronbach between 0.92 and 0.94). Significant differences were found between the distributions of scores given by the judges and significant intercenter variability.

Table 1. Source: Survey data, 2021.

interpersonal factors[13].

Martinsen et al., (2020) evaluated 38 students revealing that the educational impact of the mini-CEX largely depends on the quality of the feedback conversation after the evaluation. Additional research into the effectiveness of formative mini-CEXs should also consider the quality of feedback conversations and their impact on learning[14].

CONCLUSION

It is concluded that the mini-CEX has important applicability and reproducibility in other countries or cultures. It can provide a reliable measure of performance evaluation. It is a tool capable of performing a formative assessment of the student, being important and necessary more than one assessment (serial assessments and by more than one examiner) and even providing quality feedback as this will directly impact the final result of the student's training. In addition, we infer that understanding, adherence and teacher training to master the method are fundamental requirements in the optimization and application of evaluation as part of the medical education process.

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Skeletal dysplasias

Patricia Gonçalves Evangelista[1], Waldemar Naves do Amaral[2,3], Ariela Mauller Vieira Parente[4,5,6], Amanda Vieira Parente[7]

ABSTRACT

The aim of this study is through a literature review to describe the concept, diagnosis and management of skeletal dysplasias. Skeletal dysplasias are a heterogeneous group of disorders that affect bone and cartilage and are characterized by abnormal skeletal shape, growth, and integrity. The global incidence is about 2.4 cases per 10,000 births, and the incidence of lethal dysplasias varies between 0.95 and 1.5 per 10,000 births. Regarding mortality, 44% died in the perinatal period. There is no preponderance as to race or sex (except in X-linked recessive diseases, where males are the most affected). These disorders can be inherited in a multitude of genetic patterns – autosomal dominant, autosomal recessive, somatic mosaic, metabolism imprinting errors, X-linked, and teratogenic exposure. Most are monogenic diseases. The use of multigene panels, using state-of-the-art sequence technology, has improved our ability to quickly identify the genetic etiology, which can impact management. Prenatal diagnosis is challenging; findings are first seen during routine ultrasound. Most skeletal dysplasias have an identifiable pattern of skeletal changes comprised of unique and even pathognomonic findings.

Keywords: *Skeletal dysplasia; Bone dysplasia; Diagnosis; Management.*

INTRODUCTION

Fetal skeletal dysplasia (FSD) is a group of systemic bone and cartilaginous disorders that develop in the prenatal period and can be detected by fetal ultrasonography[1]. Osteochondrodysplasias, or skeletal dysplasias, constitute a genetically heterogeneous group of many different disorders[1,2].

The global incidence is around 2.4 cases per 10,000 births, and the incidence of lethal dysplasias varies between 0.95 and 1.5 per 10,000 births. Regarding mortality, 44% died in the perinatal period. There is no preponderance as to race or sex (except in X-linked recessive diseases, where males are the most affected)[3].

Bone dysplasia is a large group comprising 436 rare diseases. Many of them are characterised by short stature or decreased growth velocity during puberty (Linglart). However, the genetic basis remains unknown in many additional skeletal diseases, especially local skeletal injuries, suggesting that new genes or non-genetic factors may cause these diseases[4].

The aim of this study is, through a literature review, to describe the concept, diagnosis and management of skeletal dysplasias.

METHODS

The bibliographic search was carried out between January 10 and February 20, 2021 in Pubmed, Scielo and Medline databases. The keywords were used as search strategies: skeletal dysplasia or bone dysplasia and their respective terms in Portuguese.

FETAL SKELETAL DYSPLASIA

CONCEPT

Skeletal dysplasias are a heterogeneous group of congenital bone and cartilaginous disorders of genetic etiology characterised by abnormality in bone shape, length, number and mineral density. Skeletal dysplasia is often associated with the manifestation of other organs such as the lung, brain and sensory systems. Skeletal dysplasias or dysostosis are classified under

[1]Master and PhD student in Health Sciences at Universidade Federal de Goiás
[2]Physician Full Professor at Universidade de São Paulo
[3]Head professor at Universidade Federal de Goiás
[4]Radiologist at CRD Medicina Diagnóstica
[5]Fellow in Internal Medicine by CRER
[6]Master's student in Health Sciences at Universidade Federal de Goiás
[7]1st year medical student at Unifam

several different names. Endochondral bone formation is a coordinated event of chondrocyte proliferation, differentiation, and exchange of terminally matured chondrocytes with bone. Impaired endochondral bone formation will lead to skeletal dysplasia, especially associated with short long bones. Adequate bone volume and mineral density are achieved by balancing bone formation and bone resorption and mineralization. The gene that encodes fibroblast growth factor receptor 3 is responsible for achondroplasia, a representative skeletal dysplasia with short stature. Osteogenesis imperfecta is characterised by low bone mineral density and fragile bone[5,6]. The disorders affect the extremities or parts of them (dysmelia), the entire skeleton (skeletal dysplasia), the skull (craniosynostosis), and the spine (dysostosis, caudal regression).

About half of these diseases are complex. In most cases, complex disorders are caused by mutations in a single gene or numerical or structural chromosomal aberrations. The main diagnostic challenge of limb malformations and craniosynostosis is to discover whether they are isolated symptoms or specific syndromes. In skeletal dysplasia, it is clinically important to differentiate lethal from non-lethal entities[7].

The type of dysplasia and associated abnormalities affect the lethality, survival, and long-term prognosis of skeletal dysplasias. It is crucial to distinguish skeletal dysplasias and correctly diagnose the disease to establish the prognosis and obtain better management[6].

DIAGNOSIS

Ultrasonographic evaluation of the fetus in the second trimester for the detection of congenital anomalies has become the standard of care in many communities. The fetal skeleton is readily visualised by two-dimensional ultrasound at 14 weeks, and fetal femur and humerus measurements are considered part of any basic mid-trimester ultrasound assessment. Any fetus with femoral or humeral length measurements of less than the 5th percentile or -2 SD of the mean in the second trimester (<24 weeks) should be evaluated at a centre that is experienced in evaluating the entire fetal skeleton and has the ability to provide genetic counselling. The following fetal ultrasound parameters should be visualised and plotted against normative values when a fetus with skeletal dysplasia is suspected; fetal skull (biparietal diameter, occipital-frontal diameter and head circumference), abdominal circumference, mandible, clavicle, scapula, thoracic circumference and all fetal long bones. Comparison of the relative length of all long bones and with normative values will determine whether there is mainly rhizomelia, mesomelia, or that both segments are involved. A useful ratio is the femur/foot length ratio, which approaches 1.0 during pregnancy. Many skeletal dysplasias are disproportionate based on these parameters. For example, disorders that manifest mainly with rhizomelia in the prenatal period show a change in the proportion between the femur and the foot (<1)[2].

In addition to the evaluation of long bones, there are other ultrasound parameters that must be evaluated and may be useful in these differentiating disorders. These include fetal facial profile (glabellar bulge, flattened nasal bridge, micrognathia),

Figure 1. **Fonte:** Fetalmed (2021)

presence and shape of vertebral bodies, and relative appearance of hands and feet (extra, absent, or malformed fingers). There are many prenatal-onset skeletal dysplasias that are associated with relative and equinovarus brachydactyly. Fetuses with below-average long bone measurements should be strongly suspected of having skeletal dysplasia, especially if the head circumference is greater than the 75th percentile. Most prenatal-onset skeletal dysplasias have relatively disproportionate skeletal measurements in comparison with those of the skull. In addition, close attention must be paid to the form and pattern of mineralization of the fetal calvaria and fetal skeleton (deficient or ectopic mineralization). The determination of abnormal skeletal elements, together with findings of mineralization and bone shape, can help in the diagnosis[2].

The following fetal ultrasound measurements should be visualised in relation to normative values: fetal skull (biparietal diameter and head circumference), facial profile, mandible, clavicle, scapula, thoracic circumference, vertebral bodies, all fetal long bones, hands and feet . Fetuses with long bone parameters >3 SD below average should be strongly suspected of having skeletal dysplasia, especially if the head circumference is greater than the 75th percentile[2].

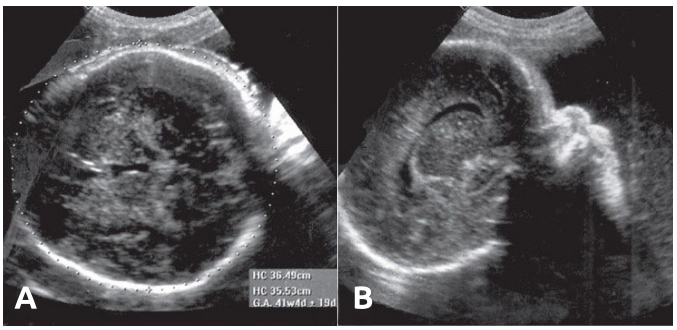

Figure 2. Thanatophoric dysplasia[13]

Prenatal ultrasound can be used to look for predictors of lethality, such as bell-shaped chest, short ribs, severe femoral shortening, and decreased lung volume. Lethal or life-limiting individual dysplasias may have more or less specific characteristics on prenatal ultrasound[6].

Lethality should be determined by the ratio of chest circumference/abdominal circumference and/or femur length/abdominal circumference. A chest-to-abdominal circumference ratio of <0.6 or a femur length to waist circumference ratio of 0.16

strongly suggests a perinatal lethal disorder, although there are exceptions. Findings should be communicated to the physicians caring for the patient and to the patient[2].

A study to assess the diagnostic accuracy of the diagnosis of skeletal dysplasia in a prenatal population from a single tertiary centre, including 178 fetuses, of which 176 had a prenatal diagnosis of 'skeletal dysplasia' by ultrasound. In 160 cases the prenatal diagnosis of a skeletal dysplasia was confirmed; two cases with postnatally identified skeletal dysplasias were not prenatally diagnosed, giving 162 fetuses with skeletal dysplasias in total. There were 23 different classifiable types of skeletal dysplasia. Specific diagnoses based only on prenatal ultrasound examination were correct in 110/162 (67.9%) cases and partially correct in 50/162 (30.9%) cases (160/162 in total, 98, 8%). In 16 cases, skeletal dysplasia was diagnosed prenatally but not confirmed postnatally (n = 12 false positives) or the case was lost to follow-up (n = 4). The following skeletal dysplasias were recorded: thanatophoric dysplasia (35 correctly diagnosed prenatally out of 40 in total), osteogenesis imperfecta (lethal and non-lethal, 31/35), short rib dysplasia (5/10), chondroectodermal dysplasia - Ellis-van Creveld (4/9), achondroplasia (7/9), achondrogenesis (7/8), campomelic dysplasia (6/8), asphyxiating thoracic dysplasia of Jeune (3/7), hypochondrogenesis (1 /6), diastrophic dysplasia (2/5), chondrodysplasia punctata (2/2), hypophosphatasia (0/2), as well as 7/21 more cases with rare or unclassifiable skeletal dysplasias. The prenatal diagnosis of skeletal dysplasias can represent a considerable diagnostic challenge.

However, a meticulous ultrasound examination yields high overall detection. In the two most common disorders, thanatophoric dysplasia and osteogenesis imperfecta (25% and 22% of all cases, respectively), typical sonomorphology accounts for the high rates of completely correct prenatal diagnosis (88% and 89%, respectively) in the first diagnosis exam[7].

The diagnosis of short stature due to skeletal dysplasia is based on (i) physical characteristics such as disproportionate trunk/limbs, short limbs or extremities, and/or stocky build, (ii) radiographic features to analyse mineralization, maturation, and morphology bone, and (iii) whenever possible, genetic characterization[8,9].

If a diagnosis of lethal dysplasia or life-limiting dysplasia is suspected prenatally, pediatric evaluation or multidisciplinary clinical evaluation after birth is critical to verify the diagnosis. In all cases confirmed in prenatal care, genetic counselling for parents is necessary. In the case of lethal dysplasias, all possibilities for further treatment must be presented, both continuation of pregnancy and termination of pregnancy (if this solution is permitted by law). When pregnancy continues, palliative care and palliative care after birth are proposed[10].

MANAGEMENT

Differentiating these disorders prenatally can be challenging because they are rare and many of the ultrasound findings are not necessarily pathognomonic for a specific disorder. However, differentiating known lethal disorders from non-lethal disorders, providing differential diagnoses before delivery, determining postpartum management plans, and ultimately determining accurate recurrence risks for at-risk couples improves patient care[2].

Bone dysplasia mainly affects many organs and therefore requires multidisciplinary follow-up and care. The pediatric endocrinologist's role is to assess the growth potential of these patients in coordination with other caregivers, offering the best growth management to limit the psychosocial consequences of extreme short stature and bone deformities[11].

It should be emphasised that genetic counselling of the parents of an affected child or fetus is necessary before the next pregnancy to discuss the risk of recurrence and the possibility of preimplantation or prenatal diagnostic testing. It should also be emphasised that lethal conditions associated with de novo mutations may have less than a 1% risk of recurrence (not counting the possibility of germline mosaicism), while SDs associated with autosomal recessive inheritance are associated with a risk of recurrence of 25%.[12]

All fetuses with suspected skeletal dysplasia should have the diagnosis confirmed by postpartum clinical and radiological evaluation. Postpartum and/or postmortem evaluation includes anteroposterior radiographs of the appendicular skeleton, including hands and feet, and anteroposterior and lateral radiographs of the skull and spine (spinal column). In all appropriate cases, photographs should be taken and autopsies should be offered and encouraged as they provide the most useful information for an accurate diagnosis. Pathologists should collect cartilage and bone, ideally femurs and humerus, for histomorphometric analysis. Tissues (fibroblasts, cartilage and bone) and/or DNA should be saved for molecular analysis whenever possible, because many skeletal disorders are associated with a significant risk of recurrence[2].

FINAL CONSIDERATIONS

Skeletal dysplasias are a heterogeneous group of disorders that affect bone and cartilage and are characterised by abnormal skeletal shape, growth, and integrity. These disorders can be inherited in a myriad of genetic patterns—autosomal dominant, autosomal recessive, somatic mosaic, metabolism imprinting errors, X-linked, and teratogenic exposure. Most are monogenic diseases. Prenatal diagnosis is challenging; findings are first seen during routine ultrasound. Most skeletal dysplasias have an identifiable pattern of skeletal changes comprised of unique and even pathognomonic findings. The use of multigene panels, using state-of-the-art sequence technology, has improved our ability to rapidly identify the genetic etiology, which can impact the handling.

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REVIEW ARTICLE

Investigation of barriers for early mobilisation in adult intensive care unit

Carlos Eduardo da Silva Pinto[1,A]; José Luís Alonso de Andrade Filho[1,A]; Keila Lourdes Maida[1,B]; Jaqueline Aparecida Almeida Spadari[1,A]; Marcus Tadeu Gianotti de Araújo Piantino[2,C]; Max Weyler Nery[2,D]; Giulliano Gardenghi[1,2,3E].

ABSTRACT

Introduction: *The prolonged length of stay in the intensive care unit (ICU) increases the incidence of complications and is directly related to the decline in functional independence. It is known that early mobilization (EM) is safe and beneficial to the patient and can prevent or minimize complications, however it is little used due to the barriers found in the routine of the ICU.* **Objective:** *The aim of this literature review is to identify barriers to early mobilization in an adult Intensive care unit.* **Methodology:** *It is an integrative literature review, with search in Cochrane, Scielo, PeDro and PubMed databases, with articles published between 2016 and 2021, in Portuguese and English, using the terms: early mobility, Intensive care unit, barriers and their equivalents in Portuguese. Results: Twenty articles that analyzed the barriers and difficulties in early mobilization in the ICU were included. Studies show that there are several barriers to performing EM, including deep sedation, unpreparedness of the multidisciplinary team, number of professionals in the team and delirium, and many factors are subject to change, potentially interfering in the reduction of mechanical ventilation time and hospitalization and improvement in cardiorespiratory response.* **Conclusion:** *Barriers hinder the practice of EM in the ICU, however most barriers are modifiable, demonstrating that EM is feasible and safe, as it can promote improvement in functional status, reduction of MV time and time of hospitalization.*

Keywords: *Early Mobility; Intensive Care Unit; Barriers*

INTRODUCTION

The need for hospitalisation, especially in intensive care units (ICU) can affect functionality, causing loss of muscle strength, proteolysis and biomechanical disorders that can compromise the patient's physical fitness.[1] Prolonged ICU stay increases the incidence of complications resulting from the deleterious effects of immobility and is directly related to the decline in functional independence.1-2 Functional decline predisposes individuals to sarcopenia and significantly contributes to increased mortality in intensive care.[3]

Several factors can contribute to the patient's decline, among them we highlight mechanical ventilation (MV) and prolonged immobility that increase the mortality rate, complications and

[1]Hospital e Maternidade São Cristóvão, São Paulo - SP, Brazil
[2]Hospital ENCORE, Aparecida de Goiânia - GO, Brazil
[3]Faculdade CEAFI, Goiânia - GO, Brazil

[A]Specialist in Hospital Physiotherapy at Hospital e Maternidade São Cristóvão, São Paulo, Brazil.
[B]Postgraduate student in Hospital Physiotherapy at Hospital e Maternidade São Cristóvão, São Paulo, Brazil.
[C]Physician Specialist in Intensive Medicine by Associação Médica Brasileira (AMB) and Associação de Medicina Intensiva Brasileira (AMIB). Intensive Care Unit Coordinator at Hospital ENCORE, Aparecida de Goiânia, Goiás, Brazil.
[D]Specialist in Cardiology at Sociedade Brasileira de Cardiologia. PhD in Tropical Medicine by Universidade Federal de Goiás. Coordinator of the Medical Residency Program in Cardiology and Cardiointensivism at Hospital ENCORE, Aparecida de Goiânia, Goiás, Brazil.
[E]PhD in Science at Faculdade de Medicina da Universidade de São Paulo, São Paulo, Brazil; Scientific coordinator at Hospital ENCORE, Aparecida de Goiânia, Goiás, Brazil.

length of stay, interfering with the patient's life, even years after his/her death. hospital discharge.4-6 It is known that prolonged hospital stay is related to muscle weakness and immobility, and one of the possible complications is respiratory failure, since these patients remain longer under artificial respiration.[7]

In view of the possible complications caused, the importance of early mobilisation (EM) emerged, with the objective of preventing or alleviating these complications, considering the individuality of the patient and with the aim of minimising morbidity and mortality.[8]

EM promotes functional benefits and is able to minimise limitations and deformities, in addition to promoting a positive effect on improved quality of life and post-discharge longevity.[9,12] The literature shows that early physical therapy, initiated within 48 hours of MV is safe, feasible and promotes long-term benefits. However, the effective performance of EM is still rarely performed in the ICU. In Brazil, it was observed that only 10% of ICU patients under mechanical ventilation were mobilised out of bed.[13,14]

There are many barriers that limit the practice of EM in the ICU routine, among them: unavailability of professionals, unpreparedness of the multidisciplinary team, lack of resources, hemodynamic instability, sedation and use of vasoactive drugs.[6, 13,16]

In order to expand the practice of EM in the ICU safely and with scientific basis, the objective of this study is to identify the barriers to EM in adult ICUs, through a literature review.

METHODOLOGY

This study is an integrative literature review and searches were carried out through the following databases: Cochrane, Scielo, PeDro and PubMed, with articles published between 2016 and 2021, in Portuguese and English, using the terms Early Mobilisation; Intensive Care Units; Barriers, and their predictors. The articles were evaluated according to the recommendation of the "Oxford Centre for Evidence-Based Medicine": (A) Systematic review (with homogeneity) of controlled and randomised clinical trials. Ensaio clínico controlado e randomizado com intervalo de confiança estreito. Randomised controlled clinical trial with a narrow confidence interval. Therapeutic results of the "all or nothing" type; (B) Systematic review (with homogeneity) of cohort studies. Cohort study (including lower quality randomised clinical trial). Observation of therapeutic results/ecological study. Systematic review (with homogeneity) of case-control studies.

Case-control study; (C) Case reports (including cohort or lower quality case-control); (D) Expert opinion without critical evaluation or based on basic materials (physiological study or animal study).

In all the databases consulted, 91 articles were found and only eighteen articles were selected that fit the inclusion criteria, which reported the barriers and difficulties in EM in the ICU. The selection flowchart follows below, in Figure 01.

RESULTS

Eighteen articles were included, in which professionals were submitted to an intervention protocol and a questionnaire reporting the difficulties and barriers encountered in adult ICU patients.

The results obtained through the selected studies are shown in Table 1, where the author's name, year of publication, the degree of evidence, the objective of the study and the conclusion obtained through the observed results are found.

The results show that there are several barriers to performing EM, among them: deep sedation, unpreparedness of the multiprofessional team, vasoactive drugs (VAD's) among others. However, these barriers can be modifiable, in order to obtain an improvement in cardiovascular capacity, decrease in MV time, minimise muscle mass loss, improve the clinical picture as a whole and reduce hospitalisation time.

DISCUSSION

The literary survey carried out suggests that the barriers reported in the studies corroborate the non-performance of EM in the adult ICU. It is a general perception in the care provided to critically ill patients in Brazil that the early mobilisation of critically ill patients is underused. This article sought to list the points that end up being most commonly considered as impediments to seeking the early withdrawal of patients from immobility conditions.

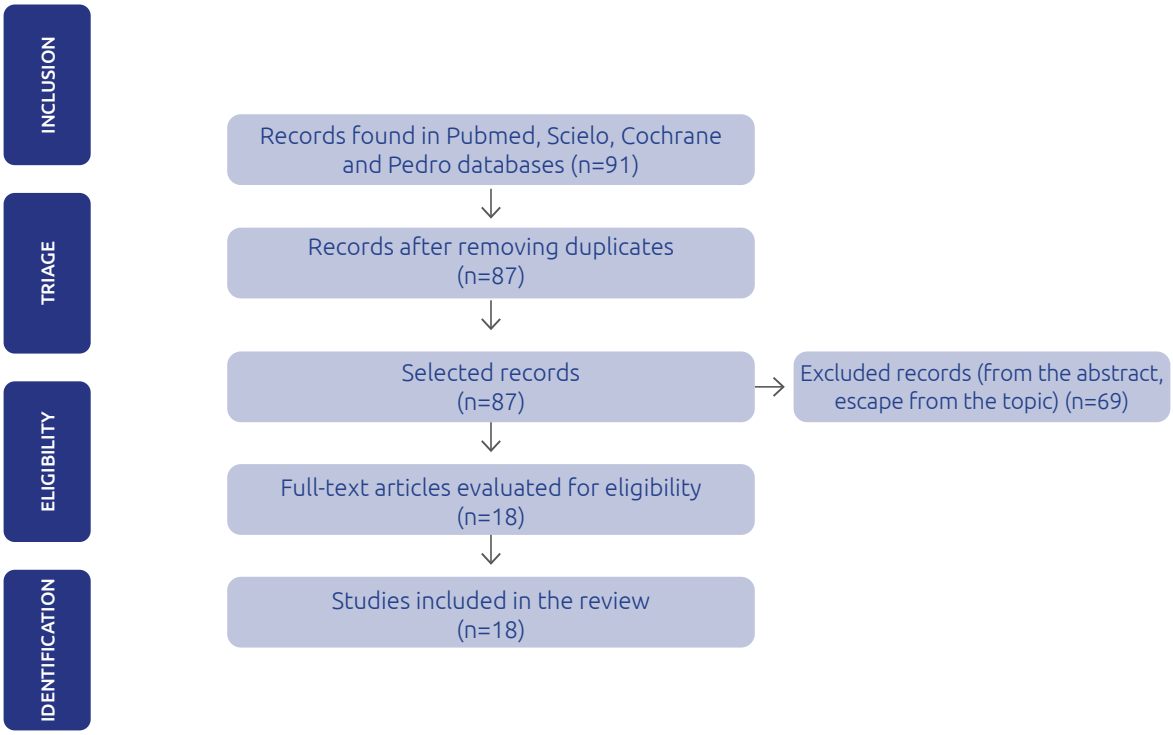
It is noted that EM is still a challenge in ICUs, both for professionals and patients. Thus, the present review seeks to raise awareness of the importance of EM. In support of EM, Nydhal et al. provide guidelines for the elaboration of EM protocols, aiming to optimise the physical and functional capacity of the patient, and they also state that EM in the ICU is safe, promotes improvement in functional status, reduces MV time and length of hospital stay[26] On the other hand, Dubb et al highlight that there are several barriers to the implementation of EM, among them: physical barriers for the patient, cultural and structural barriers related to the process and they reported strategies to overcome such barriers. In their production, they also suggest strategies used to seek to overcome each barrier presented: multidisciplinary strategy, evaluation, feedback on professionals, regular screening and emphasising the multiprofessional approach in line with the strategies, stating that such measures are important for success in EM in clinical practice.[24]

In line with the previous study, Johnson et al, refer to cultural barriers, increased workload and safety, calling attention to the fact that educational interventions have a positive impact on employees.[21] Another important point lies in the professionals' perceptions of the importance of EM.

Lin investigated the opinion of physicians, physiotherapists and nurses on the importance of EM in the ICU through a questionnaire, where 7.8% indicated it as crucial; 29.3% indicated it as very important and 41.5% thought EM in the ICU was important. It is known that EM has the potential to reduce negative outcomes for the patient and, therefore, it is the opinion of the authors of this article that having only 7.8% of the sample consider EM as crucial in itself ends up making it difficult to focus energy on implementation of EM as a routine in hospitals.

An interesting point is the fact that the physicians participating in the research agreed to provide less sedation to patients for EM, which favours the approach.[10]

Mohan implemented a multifaceted quality improvement project with the aim of improving EM practices in critically ill patients, identifying challenges and mobilising the greatest number of patients in an ICU even in the face of barriers. Nurses evaluated the indication of mobilisation through green and red signs, which signalled whether that patient was able to undergo therapy. During the implementation, several audits and meetings were carried out for the EM to be carried out.[30] Goodson and collaborators, on the other hand, bring up a point that needs to be highlighted for the managers to reflect on. Pay attention to employee attitudes and behaviour. The authors found that the longer the professional experience, the less EM was performed,



Flowchart 1. Flowchart for selecting articles
Source: Research data.

perhaps due to the natural accommodation and lack of motivation of care personnel.[32]

Fontela and colleagues point out that several physicians reported that they recognize the benefits of EM for patients on MV. They also reflect on the excessive stress at work, which ends up hampering the implementation of EM. The same perception came from physical therapists who cited as a barrier the fact of exceeding the workload to perform EM properly.[13] Other groups of authors also discuss the fact that the reduction of the number of employees on weekends, sedation deep pain, muscle weakness, presence of tubes coupled to mechanical ventilatory support, and respiratory and hemodynamic instabilities contribute negatively to successful EM protocols.[1,17,18,19] All admit in the discussion that barriers to EM are likely of reversal if there is

AUTHOR/ YEAR	GRADE OF RECOMMENDATION	OBJECTIVE	CONCLUSION
Fontela, et al. / 2018[13]	C	Identify barriers perceived by professionals that prevent EM in critically ill adult patients.	EM is recognized and among the barriers identified, the following are present: excessive sedation; unavailability of professionals; delirium; risk of musculoskeletal self-injury.
Fontela , et al. / 2017[12]	C	Check EM practices of patients on MV in the ICU; check for barriers and possible complications.	In the present study, it was found that 90% of patients were mobilised in bed only. Patients with endotracheal tubes tended to be less manipulated out of bed and the main barriers found were: muscle weakness; cardiovascular instability and sedation.

Sibilla, et al. / 2020[17]	C	Assess the current state of mobilisation practices across Switzerland, characterising the level achieved in patients on MV, and identifying barriers to such practice.	In the present study, it is concluded that EM in half of all ICUs in Switzerland has little frequency and the most common barrier was deep sedation (71%).
Cepell, et al. / 2018[18]	C	Analyse in clinical practice recommendations from a safety consensus, and EM based on risk classification.	Professionals did not perform EM out of bed in patients under MV and reported a culture of non-management of these patients.
Koo, et al. / 2016[19]	C	Assess the perceptions of Canadian physicians and physical therapists about EM and ICU-acquired strength loss in adults.	They recognize the importance of EM, but cite several barriers, becoming a challenge.
Lin, et al. / 2019[20]	C	Assess knowledge, barriers and clinical practice about PM in critically ill patients under MV in the ICU.	Factors that do not favour EM, patient severity, the unit in which they are hospitalised, insufficient staff, excessive sedation and disease severity were identified.
Johnson, et al. / 2017[21]	B	Analyse beliefs and attitudes of nurses about EM, see if an educational plan changes this scenario.	It had positive impacts on the conduct of these professionals.
McWilliams, et al. / 2019[22]	B	Evaluate the introduction of the EM quality improvement project.	It demonstrated a reduction in the time for carrying out the EM.
Brock, et al. / 2018[23]	B	Identify barriers to PM and factors associates.	There was a change in the profile of barriers, with a smaller number of modifiable barriers.
Goodson, et al. / 2020[32]	B	Project for quality improvement, increase of EM through an adaptation of PMABS.	It was a rich tool to help identify barriers.
Dubb, et al. / 2016[24]	C	The purpose of this review is to identify barriers to EM and discuss strategies to overcome them.	The most common strategies for dealing with these cultural barriers included: multidisciplinary education, mobilisation protocols and daily interprofessional rounds, and documentation that allows for the evaluation of mobility efforts.
Dirkes, et al. / 2019[25]	C	Address the effects of immobility, as well as the challenges and tools for achieving mobility.	Lack of physical activity and prolonged bed rest have significant effects on the musculoskeletal, cardiovascular, respiratory, integumentary and cognitive systems. Using tools such as: Liko® lifts, floating mats and tilting tables can reduce the risk of falls in patients and injuries to professionals conducting the mobilisation.
Azuh, et al. / 2016[27]	B	Develop an EM program in the ICU.	The program was well adapted by professionals, the team was guided and optimised techniques for EM, reduced readmission rates and financial costs.
Krupp, et al. / 2019[28]	B	Report the processes that ICU nurses applied to identify barriers and make decisions about patient mobility.	The main barriers were: unavailability of patients, fear and complications during mobilisation.
Boehm, et al. / 2020[29]	C	Report what professionals working in the ICU think about EM conduct during critical illness.	Positive and negative points about EM were mentioned. It is beneficial and protective, but it needs a sufficient number of trained professionals, in addition to equipment.
Mohan, et al. / 2021[30]	B	Perform quality improvement in a tertiary care ICU in India to understand mobilisation practices, identify challenges and test interventions for improvement.	EM is viable and safe even with limited resources. A multidisciplinary approach is important and has resulted in significant improvements in critically ill adults.

Rebel, et al. / 2018[31]	B	Explore and describe the practice of mobilisation in patients in an Australian ICU receiving VAD's and identify factors associated with mobilisation and adverse events.	Patients who received low drug levels were more likely to mobilise and had fewer adverse events. Patients who received vasoactive therapy had a relatively higher risk of hypotension during mobilisation, which was treated with transient escalation of vasoactive therapy. Vasoactive therapy should not be considered an absolute contraindication to mobilisation.
Nydahl, et al. / 2017[26]	B	Verify the feasibility and effectiveness of introducing a mobilisation protocol for ICU patients.	The implementation of an EM protocol in the ICU is a complex intervention. A standardised protocol model must consider local barriers to implementation.

UTI (Unidade de terapia intensiva); MP (Mobilização precoce); VM (Ventilação mecânica); DVA's (Drogas vasoativas); PMABS (Pesquisa de atitudes de crenças de mobilização de pacientes).

Table 1. Degree of recommendation, study objective and conclusion of the articles on barriers to early mobilisation in the ICU.
Source: Self elaboration.

proper training and adjustment of the number of employees in intensive care environments.

Another elegant study addresses the effects of immobility, discussing the use of tools that help in the practice of early mobilisation in the ICU. The tools described were: lift chairs, mechanical lifts that facilitate positioning and changes in decubitus, as well as the removal of the patient from the bed, total lift bed, tilt table and floating mats. The authors reinforce that some benefits of EM are: reduced length of stay, reduced prevalence of delirium and reduced health care costs, although they emphasise that the team's insecurity is still a major barrier to be overcome. Krupp and colleagues had the same opinion, who reported that evidence-based action and the continuing education of the multidisciplinary team in patient care in the ICU can be a decisive factor for successful EM protocols.[25,28]

Several studies presented cite hemodynamic instability and the adoption of vasoactive drugs as an important barrier, thus making EM impossible. Our group, in line with other authors in the literature, argues that the use of vasoactive drugs is not an absolute contraindication for performing EM, but it is important to assess the criteria for its safe performance. Each patient should receive an individualised assessment, respecting the particularities and the hemodynamic status present, and the dosage/intensity of the exercise, in this population, should always be light.[33]

In this way, the benefit of EM in the ICU is explicit, as well as in the entire hospital environment. Many professionals report knowledge of the benefits; yet they mention important barriers that make it difficult to carry out. It is noticed that there is a pattern between the mentioned barriers. However, it is noted that they are subject to modification.

CONCLUSION

In an attempt to bridge the gap between scientific research and clinical practice, this literature review showed that there are barriers that hinder the practice of EM in the ICU, even with the recognition of its importance by the multiprofessional team. However, most barriers are modifiable, demonstrating that EM is viable and safe, since it is capable of promoting improvement in functional status, reduction of MV time and hospitalisation time, among other benefits.

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REVIEW ARTICLE

Breast implants: anatomical x round

Marcelo Prado[1,3,4], Antônio Roberto Bozola[1,7,8], Paulo Renato Simmons de Paula[1,2,3], Ruffo de Freitas Júnior[1,5], Rosemar Macedo Sousa Rahal[1,6]

ABSTRACT

This study aims to review the literature on cosmetic breast surgery and breast implants. The choice of implant shape (round or anatomical) is one of the most essential, yet controversial, decisions in cosmetic breast augmentation. Many surgeons choose the implant shape based on personal experience. The anatomical breast implant is indicated for patients who want a natural appearance as it provides greater projection in the central portion of the breast and is recommended for those who have breasts constrained at the lower pole and thoracic hypoplasia. The round breast implant, on the other hand, offers a more artificial appearance of the breast and is recommended for those who have deficient volume in the upper pole, pseudoptosis and small asymmetries and indicated for patients with good skin quality or who require smaller volumes.
Keywords: *Breast, Silicone, Round, Anatomic.*

INTRODUCTION

The breast in a woman is synonymous with femininity, beauty and fertility. And this symbology has a very striking presence, given that today's society has a body image idealised in increasingly thin bodies, but with prominent breasts. As a result, women with breasts

smaller than normal seek, through plastic surgery, the standard established by society suitable to personal taste 1,2 Mammoplasty, whether reduction, augmentation, reconstructive or gynecomastia, is one of the most performed plastic surgeries in the world. Brazil occupies the first position in the world with 1,498,327 aesthetic plastic surgeries. And the augmentation mammoplasty is the first position with 275,283 surgeries, representing 18.4%[3].

The Food and Drug Administration (FDA) reveals that breast augmentation has a reoperation rate of 14% to 24% after three years, and 20% of patients question the size and shape postoperatively. There are multiple factors that can affect the results of these surgeries and one of them is the choice of breast implant[4,5,6].

The choice of implant shape (round or anatomical) is one of the most essential, yet controversial, decisions in cosmetic breast augmentation. Many surgeons choose the implant shape based on personal experience[7].

In Brazil, the vast majority of patients prefer and ask plastic surgeons for a more rounded and marked upper pole of the breast, which protrudes from the neck of the blouses. Some researchers have considered anatomical implants as a better choice, as the drop shape and asymmetrical projection result in a breast that is more natural-like than round implants[8,9].

This study aims to review the literature on cosmetic breast surgery and breast implants.

AESTHETIC BREAST SURGERY

FonteThe breast is located on the anterior wall of the chest, inferior to the clavicle, with the sternum medially and the edge of the latissimus dorsi muscle laterally. The lower border is the inframammary fold, also called the inframammary ligament. This fold is a dermal structure formed by the fusion of the superficial and mammary fascia. The pectoralis major and minor muscles form the posterior or lower boundary of the breast with the upper breast parenchyma. The blood supply comes from the subdermal plexus of the vessels, with major contributions from the internal mammary artery, the external mammary artery

[1]Doctor, UFG
[2]Master Professor and Doctor, Head of the Plastic Surgery Service at Hospital das Clínicas - UFG
[3]Full member of the Brazilian Society of Plastic Surgery, Goiânia - GO
[4]Regent of the Plastic Surgery Service at Hospital das Clínicas - UFG
[5]Master Professor and Doctor, Coordinator of the Mastology Service at Hospital das Clínicas - UFG, Goiânia - GO
[6]Master and PhD professor, Coordinator of the Mastology Residency at Hospital das Clínicas - UFG, Goiânia - GO
[7]Professor of Plastic Surgery, Regent of the Plastic Surgery Service at Hospital de Base - FAMERP
[8]Full member of the Brazilian Society of Plastic Surgery, São José do Rio Preto, SP

and the intercostal perforators. The main nerve supply is via the intercostal plexus, with most contributions from the third to fifth intercostal nerves[10].

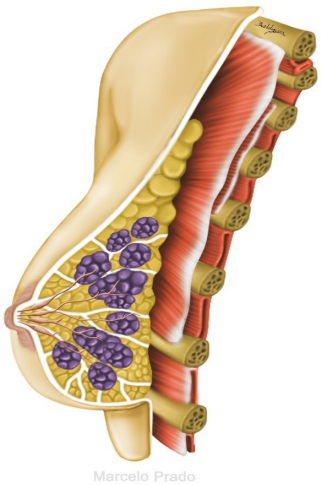

Figure 1. Breast anatomy.
Source: Author.

In surgery, breast implants are most commonly inserted through an incision in the inframammary fold, at the lower limit of the breast. Most breast implants are subglandular, meaning they are inserted under the breast tissue and over the pectoralis major muscle. The other implants are submuscular, that is, below the muscle (HARVEY & CLARK, 2016) (figure 1).

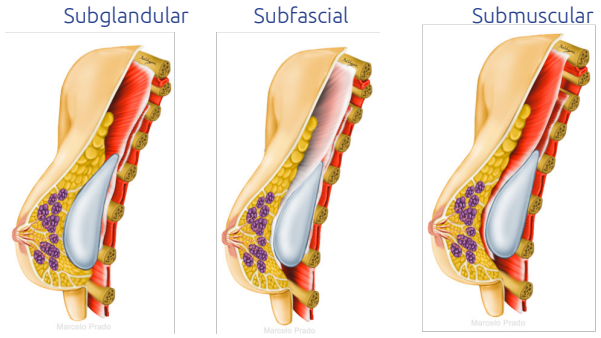

Figure 2. Types of implant positions.
Source: Author.

Three different types of incisions are commonly used for implant placement: periareolar, inframammary, axillary and even endoscopically through an umbilical incision (transumbilical breast augmentation)[11].

The main complications presented in patients undergoing mammoplasty are presented below[1,4,12]:

- Bleeding/bruising (1% risk).
- Infection (must have a risk of <1%).
- Sensory changes in the nipple and/or breast (short term).
- Scar.
- Pain.
- skin irritation.
- Asymmetry.
- Seroma.
- Implant visibility/palpability.
- Implant ripple.
- Poor implant position.
- Implant rupture (1 to 2% at 10 years).
- Implant rotation (anatomical) (2 %).
- Stretching of soft tissues (stretch marks).
- Glandular atrophy (over time).
- Galactorrhoea.
- Capsular contracture (5% for textured implants).
- Implant-related anaplastic large cell lymphoma (BIA-ALCL).
- Need for reoperation (approximately 20% in 10 years).

The ideal technique for breast augmentation has always been debated and numerous variables meet the needs of patients in different ways in our population. Implants are available in 2 general shapes: round or anatomic. Indications for both types vary, as determined by the patient's goals and anatomy [13,14].

POSITION	ADVANTAGES	DISADVANTAGES
Subglandular	More natural looking breast.	Higher rate of contracture.
	Ptosis can be corrected.	Higher chance of rippling.
	Less functional impairment.	More palpable and firm implants.
Submuscular	Less chance of capsular contracture.	Weakening of the pectoralis major muscle.
	Less chance of rippling.	Implant movement with exercise.
	Less palpable implant.	Difficult to correct the ptotic breast.
	Ideal for women with little breast tissue.	Increased musculature distorts the implant and breast contour.

Table 1. Comparison of implant position in the breast.
Source: Adapted from MICHALOPOULOS, 200711.

EVOLUTION OF THE USE OF SILICONE IMPLANTS

In 1895, Czerny used a lipoma of the dorsal region to reconstruct a breast after the removal of an adenoma, the first report of an augmentation and reconstructive mammoplasty and the introduction of the silicone gel breast implant was in 1962 by Cronin and Gerow[1,15,16].

First-generation implants (1962-1970) had a thick outer layer, with thick silicone gel and a Dacron adhesive on the posterior wall. These first implants had an anatomical droplet shape[1,17].

Second generation implants (1970-1982) were developed in an effort to reduce the incidence of capsular contracture with a

thinner, seamless outer layer and no Dacron adhesives incorporated. These implants were round and filled with a less viscous silicone gel to provide a more natural feel.

However, second-generation breast implants have been plagued by diffusion or bleeding of microscopic silicone molecules into the periprosthetic intracapsular space due to their thin, permeable outer layer and low-viscosity silicone gel filling. This diffused silicone produced an oily and sticky residue around the implant inside the periprosthetic capsule that was noticeable [1,18].

Third-generation implants (from 1982 onwards) had thicker capsules, thicker gels and a round shape. Focused on improving the strength and permeability of shell in order to reduce the bleeding of silicone gel from intact implants and reduce implant rupture and subsequent gel migration. Manufacturers designed new implant membranes that consisted of multi-layer silicone elastomers. These third-generation prostheses reduced gel bleeding by introducing a barrier layer and a thicker shell, which significantly reduced the failure rate of the device shell[1,18].

The fourth generation implants (from 1986 onwards) had similar characteristics to the third generation, except for the fact that they had a textured surface. They are available in round and anatomica[11].

The fifth generation implants (from 1993 onwards) had an improved cohesive silicone gel and a textured silicone surface. This resulted in a lower implant failure rate: 3.5% of patients experienced implant failure at six years. Patient acceptance of fourth-generation devices is very high, with a satisfaction rate of over 95% three years after breast augmentation[1,19].

The choice between anatomic and round devices should be based on a combination of patient desires, anatomy, and surgical history. Hedén et al., (2015) developed an algorithm with recommendations based on experiences about indications and contraindications for each type[9].

ANATOMICAL IMPLANTS

The silicone-filled anatomical breast implant was introduced in the market in 1993, being first marketed in Europe (Natrelle®410Allergan®, Inc., Irvine, California). In the same period, from 1992 to 2006, the Food and Drug Administration (FDA) decreed a moratorium onthe marketing of implants with silicone filling in the United States[20,21,22].

Throughout the evolution of breast implants, manufacturers have launched different formats, resulting in doubts and differing opinions about their indications among plastic surgeons around the world. The most critical point was between the round and anatomical in the search for a result close to the natural breast.

In Brazil, the vast majority of patients prefer and ask plastic surgeons for a more rounded and marked upper pole of the breast, which protrudes from the collar of the blouses. And this more rounded and apparent upper pole is only obtained with round implants. A more natural breast can be obtained with an anatomical implant, with an aesthetically different result and a less marked upper pole[8].

Anatomically shaped implants are suitable for patients who desire a natural appearance or for patients with mild ptosis

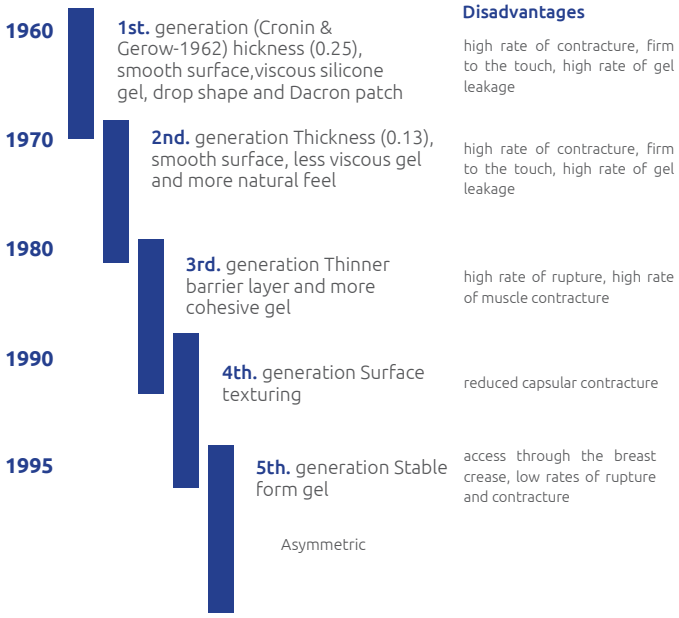

Figure 3. Five generations of silicone gel breast implants
Source: adapted from BERRY & DAVIES, 2010[2]

or pseudoptosis. It should be noted, however, that a "natural" appearance can be achieved in either way, and significant ptosis with greater laxity of the skin envelope can lead to an increased risk of rotation with anatomic implants. Patients with reduced breasts at the lower pole and thoracic hypoplasia can also benefit from anatomically shaped implants[14].

Round-shaped implants result in greater projection in the central portion of the breast, making it easier to obtain adequate measurements, thus maintaining the proportions of the breast. In a study with 50 patients, associations between breast implant shape and reintervention rates were analysed. The round prosthesis was chosen in 86%, requiring surgical reintervention in 16%. Anatomical implants were chosen in 14% of patients, but none required surgical reintervention. There was no statistical significance in the association between breast implants and reinterventions [6,23].

ROUND IMPLANTS

Round implants may be suitable for patients when rotation of an anatomically shaped implant is of concern. Patients considered suitable candidates for round implants include those in which the round shape would be less noticeable (patients with good skin quality or patients requiring larger volumes) as well as patients who explicitly want a more artificial appearance of the breast[14].

The use of round implants is recommended in cases of deficient volume in the upper pole, pseudoptosis and small asymmetries. In the case of a breast submitted to a round implant, obtaining the appropriate measurements is easier, as the implant only projects the volume in the central part, thus maintaining the proportions of the breast[23,24].

Round implants may be suitable for patients when the risk of rotation of an anatomically shaped implant is significant. Patients considered suitable candidates for round implants

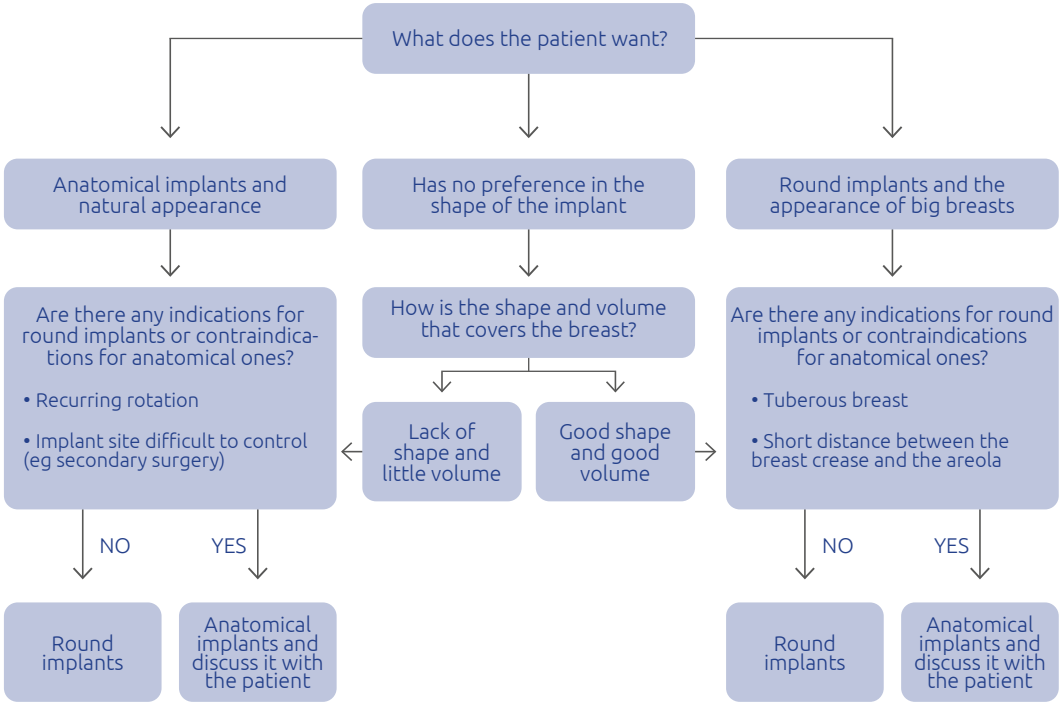

Figure 4. Algorithm for selection of anatomical implants
Source: Adapted from HEDÉN *et al.*, 20159

include those in which the round shape would be less noticeable (patients with good skin quality or patients requiring smaller volumes). In addition, patients who explicitly want a more artificial appearance of the breast[14].

FINAL CONSIDERATIONS

The anatomical breast implant is indicated for patients who want a natural appearance as it provides a greater projection in the central portion of the breast and is recommended for those who have smaller breasts at the lower pole and thoracic hypoplasia.

The anatomical round breast implant, on the other hand, offers a more artificial appearance of the breast and is recommended for those who have deficient volume in the upper pole, pseudoptosis and small asymmetries and indicated for patients with good skin quality or who require larger volumes.

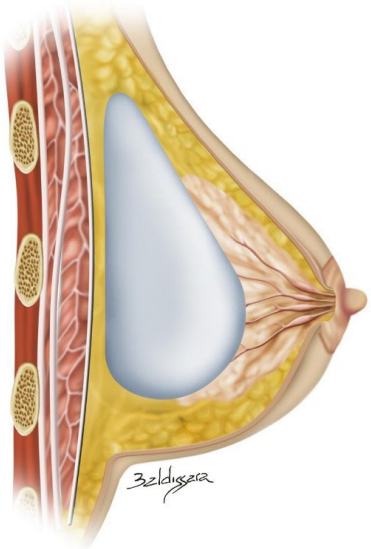

Figure 5. Figure demonstrating that the anatomical implant produces greater projection in the lower third of the breast.
Source: image kindly provided by Prof. Dr. Paulo Renato Simmons de Paula (Head of the Plastic Surgery Discipline at UFG and the Plastic Surgery Residency at HC/UFG).

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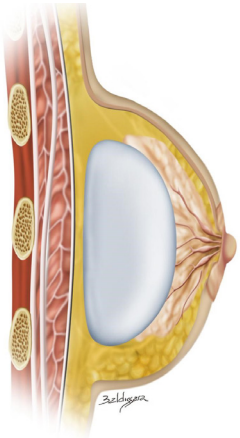

Figure 6. Figure demonstrating that the round implant produces greater projection in the middle third, behind the areola.
Source: Image kindly provided by Prof. Dr. Paulo Renato Simmons de Paula (Head of Plastic Surgery at UFG and Plastic Surgery Residency at HC/UFG).

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Epiploic appendagitis: a complication of covid-19?

Marcella Giovanna Gava Brandolis[1], Beatriz Alcantara Mendes[1], Mariana Cândida Félix Magalhães[1], Giulianne Emanuelle Bentes[1], Fabiano Inácio de Sousa[2], Frederico Barra de Moraes[2]

ABSTRACT

IThe objective of this work is to report a case of epiploic appendagitis after COVID-19 and its relationships, clinical and laboratory tests, treatment and management of the case.

Keywords: *Epiploic Appendagitis, Colon; COVID-19; Computed Tomography. Magnetic Ressonance.*

INTRODUCTION

The World Health Organisation (WHO) announced the infection with the new coronavirus as a global emergency on January 31, 2020 and then named the disease COVID-19. The virus was designated SARS-Cov-2 by the Coronavirus Study Group of the International Committee on Taxonomy of Viruses, due to its genomic similarity to the virus that causes severe acute respiratory failure syndrome (SARS)[1].

The clinical picture of COVID-19 is cough (dry), fever and tiredness. In more severe cases, pulmonary bleeding, dyspnea, lymphopenia and renal involvement may occur. In most cases the symptoms are mild. The diagnosis of the disease can be made by researching the virus by polymerase chain reaction or serology, and the choice of exams is made according to the number of days of symptoms of the patient[2].

Covid-19 is associated with a prothrombotic phenotype

that can lead to coagulopathy and endothelial dysfunction. Such endothelial dysfunction can lead to cases of thrombosis, aneurysms and lacunar infarctions in any part of the body, due to systemic inflammation. This increased risk seems to be particularly associated with exacerbated inflammatory reaction and exaggerated release of cytokines, especially interleukin 64,[5]. Coagulopathy is verified by increased fibrinogen, D-dimer (DD), factor VIII and prolonged prothrombin time (PT) and activated partial thromboplastin time (APTT), factors associated with poor clinical outcome and death[1].

In patients who died due to the coronavirus, alterations were observed in their endothelium, the tissue that lines the blood vessels. Research demonstrates vascular hypercoagulation after Sars-CoV-2 infects endothelial cells, due to tissue inflammation. One of the possible complications of this alteration of endothelial homeostasis is epiploic appendagitis.[5] The pathophysiological mechanism of dthe disease includes lacunar infarctions and inflammation of the epiploic appendages[3].

Epiploic appendages were reported as early as the 16th century. However, they were recognized as a pathology only in the 20th century. This is because it is a relatively rare disorder, a differential diagnosis of common acute symptomatic conditions, such as appendicitis and diverticulitis[4].

These structures are made up of sacculations from the visceral peritoneum of the large intestine, filled with adipose tissue and vascularized by two arteries and one vein. Such appendages are concentrated in the region of the transverse colon, descending colon and sigmoid colon. Therefore, they are more frequent

[1]Medical Academic at Centro Universitário Alfredo Nasser
[2]Professor of the Medical Course at Centro Universitário Alfredo Nasser

imaging methods. Due to the increasing availability of this test, the correct diagnosis has become more and more frequent. This is of vehement importance for the well-being of the patient, as it avoids unnecessary interventions and accelerates the recovery of their health[3]. The objective of this work is to report a case of epiploic appendagitis after COVID-19 and its connections, clinical and laboratory tests, treatment and management of the case.

CASE REPORT

A 45-year-old male patient presented with atypical low back pain for a week, with referred twinge to the abdomen in the left flank, visual numeric scale VNS = 3, using dipyrone 1g every 12 hours for four days with slight improvement in pain. He denies other signs and symptoms. On physical examination total flexion-extension of the lumbar spine, Lasegue was negative, absence of neurological deficit, absence of pain on palpation of the lumbar spinous processes, negative Giordano's sign. Pain classification: acute, visceral, non-oncological, nociceptive.

Patient diagnosed with COVID-19 six months before (April/21) with 10% pulmonary involvement without the need for hospital admission. Patient was vaccinated with two doses of CoronaVac (Mar/21 and Jul/21).

Laboratory and imaging tests were requested. Laboratory examination: creatine phosphokinase 300 U/L; PCR 46.3 mg/L; D-dimers 402 ng/mL. Prescribed enoxaparin 100mg daily for 5 days and rest for 30 days. Expectant conduct. The patient evolved with improvement in pain.

Computed tomography and magnetic resonance imaging of the total abdomen: oval image with a fat-like signal in the left flank of the abdominal cavity, next to the inferior aspect of the spleen, showing peripheral enhancement associated with slight densification of the adjacent adipose planes and thin liquid sheets, measuring 6.2 x 2.0 cm, nonspecific, which may be related to focal necrosis of intra-abdominal fat (omental infarction/epiploic appendagitis) (Figures 1 and 2).

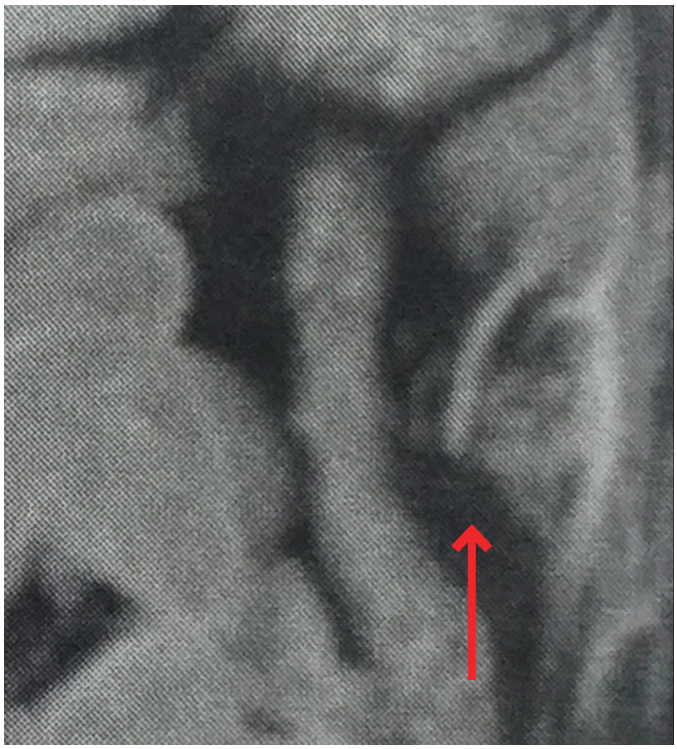

Figure 1. Coronal computed tomography of the abdomen showing epiploic appendagitis.

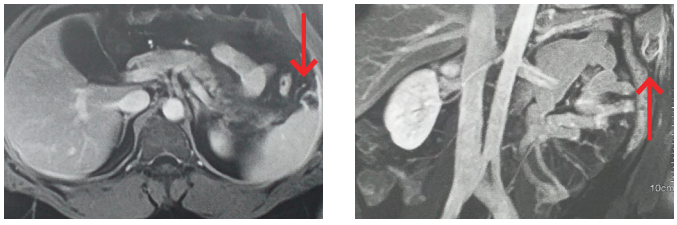

Figure 2. MRI of the pelvis in cross section (A) and coronal (B) showing epiploic appendagitis (red arrows).

DISCUSSION

Epiploic appendagitis (EA) is a rare and usually self-limiting abdominal disease that affects the epiploic appendages, lipid structures attached externally to the colon, within the peritoneal cavity. AE is also called epiplopericolitis, hemorrhagic epiploitis, and epiploic appendicitis. This disorder was identified by Linn in 1956[5].

The omental appendages are sacculations lined by a serous membrane, usually measuring 3 cm, with variations from 0.5 to 5 cm. They are more numerous in the descending colon, so the pain is mostly located in the hypochondrium, flank and left iliac fossa. However, there are about 50 to 100 diverticula throughout the colon, with protective action[5].

Obese people or people after the weight loss process have larger and more abundant epiploic appendages. Appendagitis is preceded by venous microthrombosis, causing inflammation or saculation infarction when reaching the arterioles that supply the diverticula, usually by a torsion process[5].

EA is more prevalent between 20 and 50 years of age, with no predilection for sex. Its main clinical manifestation is a constant acute abdominal pain, mainly in the left iliac fossa, when the imbalance occurs in the visceral peritoneum the pain is usually diffuse, but when it progresses to the parietal, it becomes well localised. Furthermore, it is not accompanied by hyperthermia and the patients have a good general condition6.

The afebrile state is explained by the low colonisation rate, given that the epiploic appendages do not have communication with the intestinal mucosa. This clinical picture can simulate an acute abdomen, which makes diverticulitis, appendicitis and acute cholecystitis the main differential diagnoses of EA. Misdiagnoses in cases of appendagitis are common, however it is currently decreasing due to emergency physicians and radiologists studying more of this disorder in recent years and thanks to the improvement of imaging tests[7].

Ovarian torsion, ovarian cyst rupture, ectopic pregnancy, abscess, colon tumor, mesenteric lymphadenitis and Crohn's disease are also differential diagnoses of EA. Laboratory changes include slight increases in C-reactive protein and neutrophil

levels. The erythrocyte sedimentation rate, leukocytes, pancreatic and hepatic markers are usually norma[18].

Imaging diagnosis is important due to the lack of specific clinical or laboratory findings. It is preferably performed by contrast-enhanced computed tomography (CT), which demonstrates an elliptical finding of 1 to 5 cm with fat density associated with the thickening of the omentum. The diagnosis is defined by the reduction of fat around the diverticulum. Ultrasonography and magnetic resonance may also be relevant in this diagnosis[6].

Treatment of epiploic appendagitis is outpatient and non-invasive. Based on the use of anti-inflammatories and analgesics, with full recovery between 3 to 14 days. Surgical intervention is not commonly used, but it may be necessary in cases of adhesions, prevention of recurrences or when imaging exams are not available. Videolaparoscopy is used, with ligation and extraction of the inflamed diverticulum[6].

COVID-19 is an infectious disease caused by SARS-CoV-2. The first cases appeared in Wuhan, in the Chinese province of Hubei, at the end of 2019. Caused by the SARS-CoV-2 single-stranded RNA virus, this disease is usually self-limiting and does not cause complications in most of those infected. However, in some cases, it may result in death due to alveolar damage and progressive respiratory failure. Some studies revealed a mortality rate of 2 to 3.4%, reaching 10% in patients with advanced age and previous comorbidities[9].

After emerging in the Chinese city, the coronavirus has spread around the world causing one of the biggest pandemics in history, so far affecting 196 countries, with 416,686 cases and 18,589 deaths, according to data from the World Health Organisation[9].

The transmission of the new coronavirus occurs through two main ways: respiratory droplets and contact. Person-to-person spread occurs primarily by respiratory droplets, similar to the spread of influenza. The virus is released in respiratory secretions when a person with the infection coughs, sneezes, or talks can infect others if they come in direct contact with the mucous membranes. Infection can also occur by contact if a person touches an infected surface and then touches their eyes, nose, or mouth[10].

So far, the primary measures against this new agent are early detection and isolation of suspected patients, in addition to vaccination. The most common initial symptoms described for COVID-19 infection include constitutional and respiratory symptoms such as fever, malaise, cough, runny nose and dyspnea10.

Although most patients with coronavirus disease (COVID-19) predominantly have a respiratory tract infection, some patients may develop clotting disorders. Coagulation changes associated with COVID-19 suggest the presence of a hypercoagulable state that may increase the risk of thromboembolic complications11. Epiploic appendagitis is a rare and often misdiagnosed cause of abdominal pain that involves inflammation of the epiploic appendages. The pathogenesis of primary appendagitis involves inflammation and venous thrombosis in some cases. Increasingly, COVID-19 is associated with increased hypercoagulability and, therefore, causes thromboembolic risk in infected patients and can lead to appendagitis. It is therefore necessary to assess the thrombotic risk that patients infected with the SARS-CoV-2 virus may have[12].

It is not entirely clear whether the patient's diagnosis of epiploic appendagitis is actually related to COVID-19 infection. However, it is necessary for health professionals to be able to recognize the inflammation of the epiploic appendages and the thromboembolic disease that has been increasingly detected in patients with COVID-19[12].

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Arachnoid cysts causing compressive myelopathy and myelomalacia

Márcio Luís Duarte[1,2]; Ralff Mallmann[3]; José Luiz Masson de Almeida Prado[1]; Marcelo Queiroz Pereira da Silva[1]

ABSTRACT

Spinal intradural arachnoid cysts are uncommon and most are asymptomatic. Spinal intradural arachnoid cysts are cerebrospinal fluid filled sacs formed by arachnoid membranes and may be either congenital (primary) or acquired (secondary). This case demonstrates a rare case of anterior spinal intradural arachnoid cysts associated compressive myelopathy and myelomalacia. We report the case of a 59-year-old patient who developed this disease after an episode of meningitis.

Keywords: *Spine; Arachnoid Cysts; Spinal Cord; Spinal Cord Compression; Magnetic resonance imaging*

INTRODUCTION

Intradural arachnoid cysts (IAC) are rare and mostly asymptomatic, consisting of formations with cerebrospinal fluid (CSF) produced by arachnoid membranes.[1,2,3,4] They can be congenital (primary) or acquired (secondary).[2,3,4] Schlesinger, in 1893, was the first to detect spinal arachnoid cysts, and Spiller et al, in 1903, the first to report them.[4] Primary arachnoid cysts are rare congenital tumors that arise along with the evolution of spinal division. - in the arachnoid, which has liquid similar to CSF.[3] Secondary arachnoid cysts are linked to:[3]

- Arachnoiditis.
- Spine surgery.
- Rarely described condition - occurrence after a laminectomy is uncommon.
- Neoplasm.
- Lumbar puncture.
- Trauma.

Spinal arachnoid cysts are classified into three types:[2]

- Type 1: extradural cysts without nerve root involvement.
- Type 2: extradural cysts with nerve root involvement.
- Type 3: intradural cysts.

The dorsal and cervical columns are most commonly affected by IAC, although it can occur in any part of the spine.[2] Spinal cord compression by IAC is generally rare and the usual manifestation is as a slowly progressive myelopathy.[2] The chief complaint of compressive myelopathy is gait disorder.[2] The most common clinical manifestations are:[3]

- Headache.
- Numbness.
- Radicular neuropathic pain.
- Urinary incontinence.
- Ataxic gait.
- Tetraparesis or paraparesis.

Other clinical features are sensory disturbance, radicular pain, and lower limb weakness.[2] Hyperreflexia and lower limb sensory deficit are regularly present neurological findings.[2] However, it must be recognized that these are subjective clinical verdicts.[2] Romberg's signs, clonus and crossed adductor reflex are frequently recognized.[2]

CASE REPORT

59-year-old male with severe back pain. He reports three previous lumbar spine surgeries due to disc extrusions, the last one 3 years before, in addition to bacterial meningitis one year before. He reports progressive worsening of pain in the dorsal region after meningitis treatment. The intense pain made physical examination impossible.

Magnetic resonance imaging (MRI) of the dorsal column detects multiple cystic formations in the central canal that extends from D4 to D8, compressing the spinal cord, markedly at the level of the vertebral bodies of D4 and D8. The spinal cord shows signal alteration from D4 to D12, without evident contrast enhancement. The findings suggest intradural arachnoid cysts in the anterior column with associated compressive

[1]Radiologist at WEBIMAGEM Telerradiologia, São Paulo–SP, Brazil.
[2]Master in Evidence-Based Health by UNIFESP, São Paulo–SP, Brazil.
[3]Radiologist at Centro Médico Merces, Curitiba-PR, Brazil.

myelopathy and myelomalacia (Figures 1, 2, 3 and 4).

The patient is referred to the neurosurgery sector for evaluation of surgical treatment.

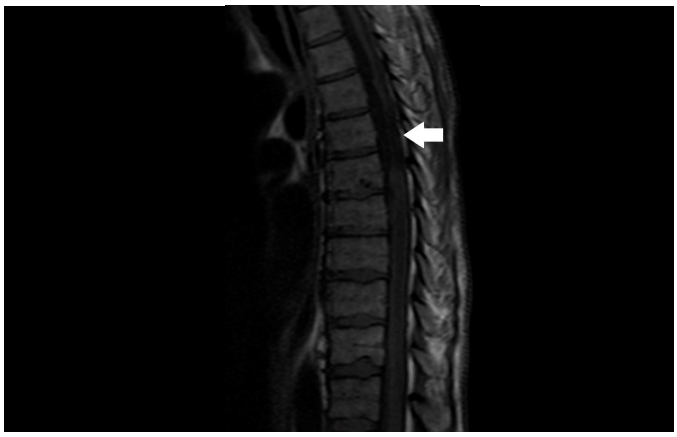

Figure 1. Sagittal T1-weighted MRI showing multiple cystic formations in the central canal (white arrow).

Figure 2. Sagittal T2-weighted MRI showing multiple cystic formations in the central channel (white arrows) and compressive myelopathy with myelomalacia (black arrow).

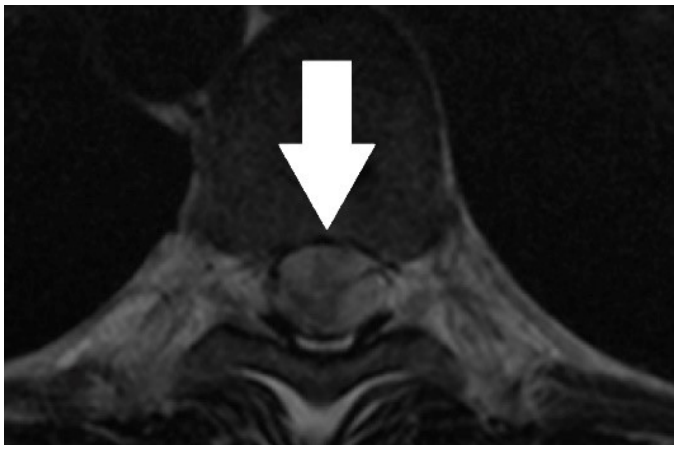

Figura 3. Axial MRI T1-weighted sequence demonstrating cystic formations in the central canal compressing spinal cord showing myelomalacia (white arrows).

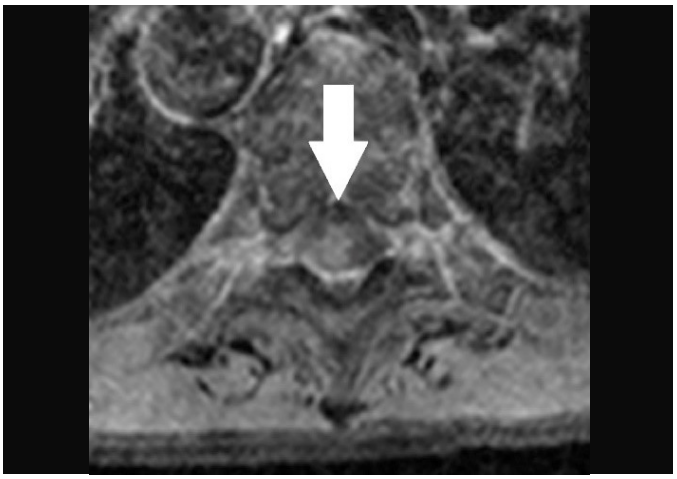

Figura 4. Axial slice MRI on T1 FAT SAT sequence with contrast demonstrating cystic formations in the central canal without contrast enhancement and compressing spinal cord showing myelomalacia (white arrows).

DISCUSSION

Most arachnoid cysts of the spine occur in the posterior and thoracic region - 85%.[1,4,5] 15% are located in the cervical spine and 5% in the lumbar region.[1,5] Anterior intradural cyst formation is rare.[1] Anterior Cervical intradural arachnoid cysts that compress the spinal cord have only 17 reported cases.[5] Regarding their etiology, most are considered idiopathic.[5]

Clinically, motor symptoms are the initial manifestation of a symptomatic cyst.[5] The most common causes for secondary cyst formation are:[1]

- Spine surgery.
- Subarachnoid haemorrhage.
- Meningitis
- infectious
- Chemistry.
- Trauma.

Arachnoid cysts usually contain clear fluids with a composition similar to CSF and can be unilocular or multilocular with septa.[2] In most cases, the cysts occupy one to three vertebral segments; although large cysts spanning several segments in the craniocaudal direction have also been described.[1] Differential diagnoses of ventrally positioned cysts are:[1]

- Epidural abscess.
- Parasitic intradural cysts (eg, cysticercosis).
- Neurenteric cysts.

MRI and computed myelotomography are the imaging tests used for this diagnosis, but each has disadvantages.[2,4] Computed myelotomography can detect the intradural filling defect more effectively.[2] However, it is a painful method with exposure to radiation for the patient, in addition to quickly falling into disuse.[2] MRI is the preferred imaging method for diagnosis, as it has a better spatial resolution that allows a precise study of the cyst, analysing its nature, position, extension and its anatomical relationship with the spinal cord.[1,4] Cysts are detected as a homogeneous formation with low signal on the T1 sequence and high signal on the T2 sequence - signal intensities similar to CSF.[1] Sometimes, a level of slightly higher protein of the cyst content may produce a slightly higher signal in T1.[1]

MRI diagnosis has been improved by the bSSFP and bSSFP cine-mode static sequences, which may provide advantages in forming a better spatial resolution to visualise arachnoid cysts and improve detection of CSF flow alteration to infer the presence of the cyst. [2]

If the patient is asymptomatic, surgical management is usually avoided.[2] In a symptomatic patient, these cysts must be manipulated to prevent irreversible neurological deficits.[1,3,5] Three different possibilities have been described: two surgical and an MRI-guided percutaneous procedure.[5]

Surgically, a posterior approach is performed by most authors.[5] After laminectomy, the cyst, anterior to the spinal cord, is punctured and partially resected.[4] The benefits of surgical manipulation are debatable.[2] Although small series of cases have suggested an improved outcome after surgery, the evidence supporting this conclusion is limited.[2] Current surgical techniques include laminectomy or laminoplasty accompanied by durarotomy and removal or fenestration of the cyst.[2] Percutaneous aspiration is less invasive but has limited evidence.[2]

Complete recovery is highly unlikely due to the long duration of symptoms before diagnosis in most cases, but it is possible.1 This reinforces the need for rapid surgical intervention once the diagnosis is made.1 Cyst recurrence is uncommon in the literature (7%) and was not observed in the case series by French et al.[2]

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SUMMARIES OF AWARDED PAPERS

33rd SCIENTIFIC MEETING OF MEDICINE ACADEMICS (ECAM)

AND 12th CONGRESS OF MEDICAL ETHICS OF GOIÁS (COGEM)

Sexual violence and sexually transmitted infections (STIs): gender, race and class vulnerabilities

Ribeiro, A.F.N.; Pacheco, F.C.; Soares, A.R.A.

RESUMO

INTRODUCTION: The World Health Organization defines sexual violence as "any sexual act, attempt to commit a sexual act or unwanted sexual advances against a person". The concept of vulnerability allowed the view that social inequality enhances the spread of sexually transmitted infections (STI), through sexual abuse. In black women, it is even more complex, because in the hierarchy of society they occupy the space of less power. In addition, homosexuals and transgender people suffer abuse anchored in stereotypes that perpetuate violence. Most frequent infections diagnosed in rapes are by Neisseria gonorrhoeae, Trichomonas vaginalis, Human Immunodeficiency Virus (HIV), hepatitis B virus and syphilis. Sexual diseases are more common in vulnerable segments of the population, since less access to health services favors the chronification of infections.

OBJECTIVES: Due to the need for greater visibility on inclusive discussions, regarding the demands of health systems, the objective of this research is to describe the intersection between socioeconomic aspects, sexual violence and STIs.

METHODOLOGY: This is a systematic review of the literature, being a descriptive and qualitative study, carried out from full articles found in the portals of the Virtual Health Library (VHL), the National Library of Medicine of the United States (PubMed) and the Online Scientific Electronic Library (SciELO), using the descriptors: Sexual Offenses, Sexually Transmitted Diseases and Socioeconomic Factors. The inclusion criteria were for studies in Portuguese, English and Spanish, from 2015 to 2021. 115 studies were found, of which 29 were selected. After reading the abstracts, in order to filter studies that fit the established sample, 10 articles were selected for this research. The exclusion criteria were: review articles and lack of correlation between the topics covered.

RESULTS: Vulnerable groups experience sexual violence, which causes different repercussions. However, when analysing STI dissemination factors, 81.25% of the articles define it as being due to race, gender and economic power. On the other hand, 18.75% blame the difficult access to quality health services. Based on the study carried out, it is clear that venereal diseases, resulting from sexual violence, are configured by the overlapping of suffering imposed on victims, destroying life projects, interfering with personal and family life. Given these considerations, when victims of sexual abuse seek health services, they do so in the expectation of finding protective measures that can, among others, avoid STIs.

CONCLUSION STIs are a public health problem, which are mainly spread by unsafe sexual practices and sexual abuse. Thus, it is necessary that health professionals understand the patriarchal context in which women live, the particularities faced by social minorities, address issues related to discrimination and provide comprehensive care. In the particular field of health, only with an expanded vision will it be possible to achieve equity. More studies should be carried out to determine how to obtain systematic approaches, with broader and deeper research into other contextual influences on sexually transmitted diseases being widely needed

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Tuberculosis case fatality rate in Brazil, 2010-2019: a time series analysis

Mendonça, A.S; Zara, A.L.S.A.

ABSTRACT

INTRODUCTION: Tuberculosis is an infectious disease, caused by Mycobacterium tuberculosis, which has been manifesting itself for centuries as a public health problem across the planet. According to the World Health Organization, in 2018, there were about 10 million cases and 1.5 million deaths. In Brazil, between 2015 and 2018, increases of more than 1.8% were recorded in the incidence of tuberculosis, especially in regions with precarious socioeconomic conditions. The main questions raised concern the understanding of the potential of tuberculosis to cause deaths in recent years, since the incidence has increased.

OBJECTIVES: To analyse the tuberculosis case fatality rate in the Brazilian population from 2010 to 2019.

METHODOLOGY: This is a time series study, with data available on the platform of the Department of Informatics of the Unified Health System (DataSUS) from 2010 to 2019. The data used corresponded to the number of deaths as the underlying cause of tuberculosis, reported in the Mortality Information System (SIM) and the number of confirmed cases of the disease, reported in the Notifiable Diseases Information System (Sinan), in each Federation Unit (FU) of Brazil. The lethality coefficient was calculated by dividing the number of deaths by the total number of cases, multiplied by 100, for the country and for each FU, considering the assumption that every case of death from tuberculosis had been notified. The time series were analysed using the Stata 14.0 software, using the Prais-Winsten Regression. Regression slope coefficients (SC) and annual increment rates (IR) were obtained, so that trends with p-value < 0.05 were considered significant.

RESULTS: Between 2010 and 2019, 970,774 cases of tuberculosis were confirmed in Brazil, of which 45,497 died (4.7%), with a downward trend in the case fatality rate (IR= -1.4%). In relation to the FUs, the highest lethality rate was in Alagoas and Pernambuco (6.3%) and the lowest rate was in Santa Catarina (2.6%). There was a decreasing trend in Rondônia (IR= -3.6%), Amapá (IR= -5.9%), Maranhão (IR= -1.6%), Ceará (IR= -1.2%), Sergipe (IR= -5.9%), Espírito Santo (IR= -9.6%), Rio de Janeiro (IR= -3.6), Mato Grosso do Sul (IR= -5.3) and Federal District (IR = -5.9%). The State of Paraná (IR= 3.1%) showed an increasing trend of lethality from tuberculosis and in the other FUs the trend was stationary (p>0.05).

CONCLUSION: In the last decade, although the tuberculosis lethality rate has been decreasing in the country, only nine Federation Units showed a downward trend in this rate. The variability of this indicator by FU reinforces the need to intensify specific strategies of public policies to fight tuberculosis for each location, especially in relation to the treatment of individuals confirmed with the disease to prolong the survival of these patients.

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Marginal corneal ulcer secondary to staphylococcal hypersensitivity

Faria, B.S.S.C.; Duarte, S.R.; Filho, J.N.A.; Inumaru, E.; da Silva, M.L.

RESUMO

INTRODUCTION: Staphylococcal blepharoconjunctivitis may present with a marginal corneal ulcer which, despite being extremely painful, is benign. It is a disease that results from sensitization to bacterial products, not constituting an infectious process. For this reason, scrapings do not contain the causing bacteria. Marginal ulcers associated with staphylococcal blepharoconjunctivitis usually recur and the recommended treatment for blepharitis is eyelid hygiene with a mild shampoo, which in most cases resolves the problem. Topical corticosteroid ointment is often used in combination with antibiotics, which shortens the course of the disease and relieves symptoms. In the present case, staphylococcal blepharoconjunctivitis was a condition presented after staphylococcal hypersensitivity (type IV hypersensitivity that is cell-mediated).

OBJECTIVES: The objective of this report is to present the clinical evolution and the management to be taken in a case of staphylococcal hypersensitivity. CASE REPORT: Patient N.E.S., male, 49 years old. For 30 days, he reports that he treated acute follicular conjunctivitis, with a good response, but for 15 days he had noticed burning, pain and a "shredded eye" sensation when waking up in LE. The patient is using sodium caramelose lubricant and cold compresses. When performing biomicroscopy, it was evidenced RE with blepharitis, but without other changes. In LE 4/4 hyperemic conjunctiva, with severe posterior blepharitis and three peripheral ulcers.

DIAGNOSIS: Staphylococcal hypersensitivity.

DISCUSSION: Viral conjunctivitis, the first diagnosis of the N.E.S. patient, has adenoviruses as frequent etiologic agents. Generally, the disease is self-limiting, being treated only with lubricating and anti-inflammatory eye drops and application of cold compresses. Subsequently, the patient was diagnosed with staphylococcal hypersensitivity or catarrhal ulcer. Its etiology is still unknown, however, it is believed that it may be mediated by defence cells or by an IV hypersensitivity reaction to bacterial antigens. Its more specific signs and symptoms are red eyes, ocular pain, ocular hyperemia, peripheral stromal infiltrates in the cornea, some common in N.E.S. The severity of the pathology is related to adherence to treatment, delay in starting treatment and aggressiveness of the agent. Therefore, the therapy for this disorder is the application of hot compresses, hygiene on the eyelid, the use of antibiotics, lubricants, analgesics to help the pain, and, in some cases, corneal transplantation. In moderate or severe cases, in addition to these measures, it is recommended to add the use of corticosteroids associated with antibiotics and, if the cases are recurrent, add a doxycycline until the disease is controlled. In the patient, the cure occurred after the prescription of sodium carmellose lubricant, ciprofloxacin and washing with neutral shampoo, treatment recommended for less severe cases.

CONCLUSÃO: It is concluded, therefore, that staphylococcal hypersensitivity is a hypersensitivity reaction with the deposition of immunocomplexes, a condition that justifies the non-identification of the infectious agent in the scrapings. In addition, marginal corneal ulcer, even if painful, is benign and should be treated with steroids and eyelid hygiene with a mild shampoo.

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Complications and risks associated with pregnancy in women with spinal cord injury

Reis, D.E.O.S.; Fleury, R.A.M.C.; Conceição, E.A.D.; Vilar, W.D.B.

RESUMO

INTRODUCTION: Spinal cord injury (SCI) has an approximate incidence of 6 to 8 thousand new cases per year in Brazil, of which 60% occur in the age group from 10 to 30 years of age. It is a highly prevalent condition that affects young and reproductive-age individuals. Thus, in recent years, an increase in the number of pregnancies related to women with spinal cord injury (SCI) has been observed, which raises concerns about the particularities that involve a pregnancy in these conditions. The repercussions of neurological dysfunction caused by SCI are known, as well as the immobility of patients on the main organ systems (especially the circulatory and urinary systems) and their possible implications for maternal-fetal health are discussed. However, there is uncertainty among health professionals regarding pregnancy care in this context, mainly due to the scarcity of observational studies that elucidate the real complications and associated risks and updated guidelines that guide the conduct. doctor.

OBJECTIVES: The general objective of the present review was to determine the main complications and risks associated with pregnancy in women with spinal cord injury.

METHODOLOGY: This is an integrative literature review which was synthesised from the databases: Google Scholar and PubMed Central (PMC), in which five original articles were selected from clinical studies, randomised controlled trials, study and pilot studies published in international and national journals, in addition to case reports, opinion articles and national guidelines. The inclusion criteria comprised original articles, published between 2014 and 2021, according to the Health Sciences Descriptors (HSD): "spinal cord injury AND pregnancy" and "pregnancy complications AND spinal cord injury", with the criteria for exclusion of articles and reviews outside the aforementioned period.

RESULTS: The results obtained from the research show that the complications most associated with pregnancy in women with spinal cord injury are autonomic dysreflexia, intestinal motility disorders, impaired respiratory function, urinary tract infections, pressure ulcers, being associated with greater risks of thromboembolism. venous and preterm labour. However, despite such concerns, the approach by a multidisciplinary team (obstetrician, specialist in maternal-fetal medicine, rehabilitation professionals, occupational therapists, anesthesiologists, pediatricians, neonatologists and lactation consultants) is associated with successful pregnancy, delivery and postpartum. Furthermore, unlike what is commonly practised, there are no specific risks that contraindicate vaginal delivery in women with spinal cord injury.

CONCLUSION: It is concluded that pregnancy in women with SCI should not be discouraged, however, there is a need to qualify care for these pregnant women. Therefore, monitoring by an experienced and trained multidisciplinary team is suggested to deal with the particularities that involve this public, as well as to resolve the risks and complications. Furthermore, meeting these needs ensures better clinical outcomes during pregnancy and supports the guarantee of the reproductive rights of women with SCI.

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Perception of medical students from a Brazilian public university about humanised childbirth care

Ribeiro,G.F.F.; Medeiros,D.L.S.M.; Chaveiro,G.A.; Rahal,R.M.S.

ABSTRACT

INTRODUCTION: The search for health care with greater humanisation is a frequent theme nowadays, with emphasis on discussions about humanised childbirth. This is configured as a set of practices that enable childbirth care aimed at respecting the rights and well-being of the pregnant woman and reducing the use of unnecessary procedures or medications. In this context, the academic training of health professionals is shown to be one of the main pillars for adequate care for parturients. In 2014, as part of the reformulation of the curriculum of the medical course proposed by the MEC, the Faculty of Medicine of the Federal University of Goiás proposed a teaching plan with a greater workload of collective health and humanities and included topics that address humanised childbirth care since the 3rd year. However, there are no studies on the effects of the new grade on the training of academics, which is the importance of this study.

OBJECTIVES: To know the perception of medical students in the 6th year of a Brazilian public university about the contribution of collective health and humanities components to humanised medical training, as well as their perception of the care offered in the practice scenarios in obstetrics and the knowledge of these students about the rights of the parturient and the humanisation of childbirth movement.

METHODOLOGY: Descriptive, quantitative and cross-sectional study, using a structured questionnaire on a Likert scale with 27 questions, applied at the end of 2019 to sixth-year medical students at UFG, who had completed the rotation of obstetrics. To determine the sample, a confidence interval (CI) of 95% and a significance level of 5% were respected. The research was approved by the Research Ethics Committee of the Federal University of Goiás, opinion nº 3.653.266/2020.

RESULTS: Eighty-six students participated in the study, with a mean age of 24.78 years, who worked in the practice setting of the Materno Infantil, HC-UFG or Maternidade Dona Íris hospitals. As for the contribution of the collective health and humanities modules to humanised education, 88.4% stated that the first was significant while for the second, 48.8%. Regarding the perception of academics in practical activities, 84.8% said that pregnant women arrive at the hospital without guidance on their rights. 65.1% reported that analgesia is not frequently performed in normal deliveries. Regarding the knowledge of the interviewees, the students were almost unanimous in stating that the presence of a companion brings benefits to pregnant women and it was observed that most of them know the principles of humanised childbirth. There was a statistically significant difference ($p = 0.017$) between the academics who participated in the OB/GYN league and those who did not, regarding the perception of respect for the rights of pregnant women in the practice scenarios, in which the students of the league identified more situations of disrespect.

CONCLUSION: Study participants, in general, have knowledge about the principles that govern humanised childbirth, as well as critical perceptions regarding practical activities in gynaecology and obstetrics. Furthermore, most students considered that the collective health module contributed to humanised education, while less than half agreed with this contribution in relation to the humanities module.

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Mortality rates from melanoma in the northern region of Brazil

Lima, G. M.; Biazussi, H. M.

ABSTRACT

INTRODUCTION: Cutaneous melanoma is one of the most aggressive skin neoplasms, whose main molecular markers are p53, p16 INK4A, p21WAF1, BRAF and C-KIT. Inadequate protection against ultraviolet rays that reach the surface, geographic location with high solar incidence, work activities in agribusiness are important risk factors for the development of this tumor in the population of the northern region of the country.

OBJECTIVE: To analyse the unadjusted proportional mortality rates and the number of deaths in females and males, considering their progression between 2010 and 2019.

METHODOLOGY: This is a retrospective and secondary cross-sectional epidemiological study, with data extracted from the online cancer mortality platform of the National Cancer Institute (INCA – Ministry of Health) for malignant skin melanoma – code C43 (ICD 10th Revision). Because it is public data, the present study was not submitted to the research ethics committee. The study of mortality from melanoma in terms of geographic region (North region of the country), time frame (2010 to 2019) was carried out through analysis using the Windows Excel® program, comparing the mortality rate and number of deaths of both sexes.

RESULTS: The male mortality rate (M) in the North region from 2010 to 2019 was respectively equal to 0.04; 0.05; 0.07; 0.03; 0.05; 0.05; 0.06; 0.05; 0.06 and 0.05. Comparatively in the same years, the female sex (F) represented 0.06; 0.03; 0.04; 0.06; 0.05; 0.05; 0.06; 0.05 and 0.08, respectively. The mean in sex M and F was respectively 0.051 vs 0.052. As for the number of deaths by age group respectively in sex M and F, between 20 and 29 years old, there were 6 deaths in sex M and 6 deaths in sex F. Between 30 and 39 years old, 11 in M and 16 in F. From 40 and 49 years old, 19 deaths in M and 25 in F. Between 50 and 59 years old, 38 deaths in M and 20 in F. Between 60 to 69 years old, 64 deaths in M and 27 in F. From 70 to 79 years old, there were 69 deaths in M and 25 in F. From the age of 80, 39 deaths in M and 33 in F. Therefore, the peak for sex M was between 70 and 79 years (n=69 deaths), and in F it was the from 80 years of age (n=33 deaths). In sex M, the standard deviation of frequencies between age groups was 25.90085994; while in women it was 12.48053029, which shows the heterogeneous distribution of deaths, especially in males.

DISCUSSION: The high population standard deviation among men urges the investigation of the determinants of melanoma in males at an advanced age, since individuals between 60 and 79 years old account for 54.06% of the cases in the sample. On the other hand, looking at the South region between 2010 (n=0.28) and 2019 (n=0.31), there was an increase in unadjusted proportional mortality around 10.71%, considering all sexes. In a study carried out in the southern region of the country, there was a similar prevalence among women (n=52.5%) and men (n=47.5%), an epidemiological scenario that is repeated in the North region.

CONCLUSION: The mortality rate remained stable in the analysed period. Although the average mortality rate among women is slightly higher than that of men, the even distribution of mortality among age groups in women is less alarming. In men, however, advanced age suggests a disposition to melanoma. There is a need for screening at an early age in primary care services for adequate management and prognosis, as timely screening at younger ages is crucial to reduce mortality from the disease.

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Trends in hospitalisation rate for congenital malformation of the circulatory system in children and adolescents in Brazil and its costs between 2011 and 2020

Portilho, J.V.M.; Trentini, L.F.M.; Filho, J.C.R.L.; Alencar, J.V.A.; Machado, P.H.B.

ABSTRACT

INTRODUCTION: Congenital malformations of the circulatory system (CMCS) consist of macroscopic structural abnormalities of the heart or large intrathoracic vessels, with significant clinical and functional repercussions. They are the leading cause of childhood death in developed countries, accounting for a fifth of mortality. Although many defects are identified prenatally by means of fetal ultrasound or diagnosed in the newborn period before hospital discharge, some CMCS may go unnoticed and present undiagnosed to the emergency department, resulting in important hospital admissions, whose analysis of their fees and costs are relevant in this work.

OBJECTIVES: To analyse the epidemiological profile and costs of the age group from 0 to 20 years old by CMCS, including hospitalisation rate, mortality rate and costs in the last 10 years.

METHODOLOGY: An ecological study based on data from the Hospital Admissions System (SIH-SUS) and population estimates from the Interagency Health Information Network (RIPSA). Data were collected on hospitalisation rates, hospital mortality, average days of hospitalisation, character of care (elective or urgent) and cost between 2011 and 2020. The stratification of Age Groups (AGs) followed the parameters of DATASUS, being AG1: 0 to 4 years, AG2: 5 to 9 years, AG3: 10 to 14 years, AG4: 15 to 19 years. The rates used are on the order of inhabitant/100,000 thousand.

RESULTS: A total of 122,864 hospitalisations were found during the study period, with 62,710 males and 60,154 females, with similar hospitalisation rates of 19.72 hospitalisations/100,000 and 19.68 hospitalisations/100,000 for males and females, respectively. The AG with the highest number of admissions were AG1, with a total of 95,475, and AG2, with 12,675, representing 88% of the number of admissions. The highest mortality rate was found in AG1, with 11.09. In the other AGs, mortality rates were lower than 2.0. Regarding the nature of care, there were 74,859 emergency admissions and 48,005 elective admissions, that is, 60.9% urgently. The costs observed in 10 years were in the order of R$1,392,244,504.62, with an annual average of R$139,224,450.46. The AG with the highest concentration of expenditure was AG1, with an average of approximately 80 million per year.

CONCLUSION: Therefore, we conclude that patients with CMCS of AG1 and AG2 have a higher rate of morbidity and mortality. The hospitalisation rate, on the other hand, was similar between the sexes, with a slight difference. The costs of hospitalisation are quite high, being mainly focused on an emergency. These findings are in line with the current literature and raise the importance of early diagnosis, in view of the morbidity and mortality of this clinical condition and the financial impact on the health system. New studies may be carried out to assess this panorama, since it is a topic whose updating is of great public health interest.

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Clinical manifestations of patients with lung injury associated with the use of electronic cigarettes or vaping products

Silva Junior, J.C.; Sena, L.E.O.J.; Silva, D.F.

ABSTRACT

INTRODUCTION: Created in 2003 in China, the electronic cigarette came up with the proposal of being a safe alternative to traditional smoking habits. However, this product has been shown to be harmful to human health, and in August 2019, the US Centres for Disease Control and Prevention (CDC) was notified of the first case of lung injury associated with the use of electronic cigarettes or products with vaporisation (EVALI).

OBJECTIVES: The present study aims to elucidate the main clinical manifestations presented by patients diagnosed with EVALI.

METHODOLOGY: An integrative literature review was carried out in the Scielo and PubMed databases, from which 8 articles were found, of which 6 were selected because they were in line with the proposed theme. The references used for the preparation of this study were published between February 20, 2020 and August 14, 2020.

RESULTS: Clinically, EVALI manifests itself similar to a viral disease, presenting a variable symptomatology. With an average duration of 6 days, the clinical picture of patients can range from respiratory and gastrointestinal symptoms such as dyspnea, cough, pleuritic pain, hemoptysis, nausea, vomiting, diarrhea and abdominal pain to constitutional symptoms, such as fever, chills and weight loss.

CONCLUSION: The growing number of scientific evidence regarding the complications associated with the frequent use of electronic cigarettes shows that it is not harmless to health. Therefore, with the exponential growth in the number of users and the discovery of lung injuries associated with the use of these vaporisation devices, it is increasingly relevant, especially in clinical practice, to understand the symptoms of EVALI, since recognition in early stages improves the patient's prognosis, avoiding complications that can be fatal.

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Implementation of varicella vaccination and its impact on hospitalisation rates in children in the state of Goiás

Costa, L.G.; Carneiro, L.O.; Marinho, G.C.; Marinho, V.C.

ABSTRACT

INTRODUCTION: Caused by the Varicella-Zoster virus, chickenpox is an acute, highly contagious, exanthematous viral disease transmitted through respiratory secretions, saliva or by contact with secretions from skin lesions. Although chickenpox is considered benign, the disease can be fatal and can progress to severe cases, either due to complications arising from the virus itself, due to viral spread to internal organs, or secondary to viral infection, such as secondary bacterial infections caused by Group A Streptococcus haemolyticus or Staphylococcus aureus. Immunisation against the varicella-zoster virus was included in the National Immunisation Program (PNI) by the Ministry of Health in September 2013 through the introduction of the tetravalent viral vaccine with the aim of reducing morbidity and mortality caused by this virus.

OBJECTIVES: To evaluate the numbers of hospitalisations and deaths from chickenpox in the state of Goiás in the period from January 2008 to December 2013, period prior to the implementation of the vaccine, and in the interval from January 2014 to December 2019, subsequent period, comparing the numbers for the period that precedes the introduction of the tetravalent viral vaccine in the national immunisation program and the period after.

METHODOLOGY: This is a descriptive-analytical study regarding the number of hospitalisations and deaths from chickenpox in the State of Goiás in Brazil from January 2008 to December 2013. Data collection was performed using secondary databases for the analysis of the distribution of hospitalisations between years, sex and age groups. The information was obtained from the Hospital Information System of the Unified Health System (SIH/SUS).

RESULTS: In the first period analysed, between January 2008 and December 2013 in Brazil, there were a total of 124,799 cases of hospitalisations for chickenpox and herpes zoster and, in this same interval, a total of 119 deaths from the same cause, in children aged 1 to 14 years regardless of race. In the second period, between January 2014 and December 2019, there were a total of 10,966 (44% of the 1st period) hospitalizations and, in this same interval, a total of 42 (35% of the 1st period) deaths from the same cause . Regarding hospitalisations by age in the first period: between 1 and 4 years old there were 17,099 (68%) cases; between 5 and 9 years 5,291 (21%); between 10 and 14 years old 2,409 (9.7%). As for gender in this period, male hospitalisations correspond to 13,233 (53%); female 11,576 (46%). In the second period: between 1 and 4 years old there were 5,605 (51%) cases; between 5 and 9 years 3,446 (31%); between 10 and 14 years old 1,915 (17%). As for gender in this period, male hospitalisations correspond to 5,769 (52%); female 5,197 (47%).

CONCLUSION: In view of the above, there was a significant reduction in the incidence of hospitalizations and deaths from chickenpox and herpes zoster after the vaccine was incorporated into the National Immunisation Program. In addition, the age group from 1 to 4 years old obtained the greatest benefit from vaccination. Therefore, the adoption of primary prevention for this exanthematous disease showed a good correlation with the reduction of morbidity and with the better evolution of this infectious disease.

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Profile analysis of the rate of hospitalisation for chronic venous insufficiency in the adult and elderly population in Brazil between 2010 and 2019

Zago, L.O.; Gomes, R.F.; Almeida, F.C.; Domingos, B.Q.; Morais, M.E.; Silva, M.E.

ABSTRACT

INTRODUCTION: Chronic venous insufficiency (CVI) of the lower limbs is a very common condition in the population and its prevalence increases with age and has a higher incidence in females. Its pathophysiology involves the presence of long-term intravenous hypertension and malfunction of the venous system due to valvular incompetence. The incidence increases with age and is more common in females.

OBJECTIVE: The present study aims to describe and evaluate the hospitalization rate, mortality rate and total cost value per year of hospitalization for Chronic Venous Insufficiency (CVI) in Brazil, in the adult and elderly population stratified by sex in the period from 2010 to 2019.

METHODOLOGY: An ecological study based on data from the Hospital Admissions System (SIH-SUS) and population estimates from the Interagency Health Information Network (RIPSA). Data were collected on hospitalisation, mortality and total hospitalisation rates in Brazil between 2010 and 2019. Ages were stratified into age groups (AG), as follows: AG1: from 20 to 39 years, AG2: 40 to 59 years and AG3: greater than 60 years. The rates presented were calculated in the order of 100,000 inhabitants. For temporal analysis, the Prais-Winsten method was used.

RESULTS: A total of 817,960 hospitalisations were analysed. Females had 630,542 hospitalisations, corresponding to approximately 77%, while males had 187,418 hospitalisations, corresponding to approximately 23%. The AG with the highest admission rate was AG3, with a rate of 75.66 (hospitalisations/100 thousand) and the lowest admission rate corresponds to AG1 with a rate of 29.51 (hospitalizations/100 thousand), but the number of admissions were FE1 197,709, FE2 433,054 and FE3 187,197. After analysis, it was observed that the trend of hospitalisation rates for CVI was stationary in AG1 (p - Value >0.05), and not stationary and increasing in AG2 and AG3 (p - Value <0.05 and b>0) . Regarding the hospital mortality rate, AG3 had the highest rate with 2.88, in addition to observing that males had a mortality rate of 0.71 and females of 0.22. The total value of hospitalisations per year is R$109,087,749.31.

CONCLUSION: In view of the above, it was concluded that there is a high prevalence of CVI in females, being greater than 3 times compared to males. The study shows that the age group with the highest number of hospitalizations is AG3 and AG2, respectively. However, the groups are transitional in the adult population to the senile population and the elderly population, as they concentrate the hospitalization rates with minimal difference. Overall, mortality rates are relatively low. However, in AG3 (senile population) the most significant is 2.88. Therefore, the data from the present study are in agreement with the current literature, in which physiological, genetic, hormonal and pathological changes are important factors and affect more groups AG2, AG3 and females. New studies can be done in order to evaluate these associations.

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Hyperglycemia in patients with diabetes mellitus type 1 during the covid-19 pandemic and their associations

Teixeira, N.C.; Freitas, T.C.; Gontijo, E.C.; Mota, R.F.N., Braga, P.H.M.; Rodrigues, M.L.D.

ABSTRACT

INTRODUCTION: In order to minimise the spread of the new coronavirus (COVID-19), a series of restrictive and social isolation measures were adopted. During this period, there was concern about the increase in blood glucose in patients with type 1 diabetes after the restriction of consultations, and it was important, if this occurred, to determine which factor was most related to this worsening.
OBJECTIVES: To evaluate the relationship between glycemic control and physical activity, illness due to COVID, time of suspension of consultations and acquisition of supplies by the SUS and weight gain, in patients with type 1 Diabetes Mellitus (DM1) during social isolation due to the pandemic of COVID-19.
METHODOLOGY: This is an analytical cross-sectional study, developed by the Academic Diabetes League, through the Sala de Espera extension project. Participants are patients from the Type 1 Diabetes outpatient clinic, Hospital das Clínicas, UFG. After obtaining the informed consent (adults) and the term of free and clarified consent - TALE (under 18 years of age), an electronic form was applied via WhatsApp from June 1, 2021 to July 5, 2021. Altogether, 58 patients with DM1 answered the questionnaire. quiz. It was asked what had happened, during social isolation, in relation to blood glucose levels, measured by capillary blood glucose. Responses were categorised as stable (1), lower (2) or higher (3) than before social isolation. The degree of physical activity during the pandemic was also asked, categorised by frequency and intensity: as before the pandemic (1), more than before (2), less than before (3). Statistical analysis was performed using the SPSS program. The project was approved by the UFG Ethics Committee (CAAE 45111921.70000.5083, decision 4,654,208).
RESULTS: Of the patients, 75.8% are women and 60.3% are adults and the mean age was 25.2 years. In all, 28 patients (48%) reported an increase in blood glucose during the period of social isolation . There was a significant association between increased glycemic levels and physical activity status 3 (p = 0.031, Chi Square test). There was no difference in association with age, sex or weight gain. There was no association with illness due to COVID, time of suspension of face-to-face consultations or acquisition of supplies by SUS.
CONCLUSION: The reduction in the frequency and/or intensity of physical exercises during social isolation, due to the COVID-19 pandemic, was an independent risk factor for increased blood glucose.
KEYWORDS: COVID-19, Diabetes.

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Takotsubo syndrome in covid-19

Fernandes, R.M.; Borges, A.O.; Santos, B.S.; Linhares, G.A.; Pereira, L. G.; Matos, M.R.Q.

ABSTRACT

INTRODUCTION: ATakotsubo syndrome (TS) is a cardiomyopathy characterised by transient segmental dyskinesia of the left ventricle with consequent systolic dysfunction in the absence of obstructive coronary disease. A rare disease, first described at the end of the 20th century, it has gained special attention in the present, as evidence indicates that it is a potential complication in patients with COVID-19. Clinical manifestations are angina-like chest pain and sudden dyspnea that mimic an acute myocardial infarction with increased cardiac enzymes, catecholamines, and atrial natriuretic peptide (BNP). Electrocardiographic changes include TS-segment elevation, T wave inversion, and QTc interval prolongation, and treatment is supportive.

OBJECTIVES: Understand the pathogenesis of TS and establish a possible relationship with infection by the new coronavirus.

METHODOLOGY: FA bibliographic review was carried out from 2020 using the research platforms PUBMED and SCIELO, the descriptors used were takotsubo and COVID-19, of the 24 documents found, 7 of the most relevant were selected.

RESULTS: TS can be triggered by emotional or physical triggers, as it is attributed to high levels of catecholamines and myocardial overstimulation. In cases of fulminant COVID-19, there is an exacerbated release of cytokines that initiate a hyperinflammatory state, cause homeostatic alteration and predispose to TS. On the other hand, the pandemic generates emotional stress, due to psychological, social and economic suffering, and can evolve into TS. However, infection with the new coronavirus (SAR-S-CoV-2) can also cause direct myocardial injury, the mechanism of cellular aggression of the virus is due to the binding of the viral spike protein to the angiotensin-converting enzyme 2 receptor (ACE- 2), highly expressed in the heart, results in endothelial dysfunction and possible microvascular vasoconstriction. However, although the pathophysiological mechanisms for TS are still not well understood, it is believed that microvascular dysfunction, hypercytokinemia and sympathetic enhancement are the tripod of this complication. If the syndrome is not identified early, the patient may progress to cardiogenic shock and death.

CONCLUSION: Although stress cardiomyopathy/TS favours a worse prognosis for patients with COVID-19, early identification and adequate treatment can minimise the consequences. Since it is a reversible condition, it is essential that health professionals pay attention to clinical suspicion.

KEYWORDS: Covid-19; Takotsubo cardiomyopathy.

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Analysis of hospitalisation for dengue in Brazil from 2019 to 2021: changes in endemic patterns due to the pandemic

Carneiro, T.P.; Gomes, V.M.; Junior, V.G.S; Luz, N.R[1]; V.G.S; Silveira, L.A.

ABSTRACT

INTRODUCTION: Dengue is an endemic arbovirus in the country, characterised by retro-orbital pain, myalgia, prostration, headache, arthralgia, exanthema. The Brazilian scenario is characterised by seasonal epidemics from March to June since 1986, with circulation of the 4 serotypes and a significant increase in the number of cases, hospitalisations and deaths in the last decade. The SARS-CoV-2 pandemic has had repercussions in all areas of society, especially in health systems, hindering the care of other diseases. It is important to analyse the impacts of the coincidence of these viruses in order to understand and take coping measures.

OBJECTIVES: To compare hospitalisation for dengue between January and June for the years 2019, 2020 and 2021.

METHODOLOGY: This is an ecological study of Brazil comparing the period from Jan. to June for the years 2019, 2020 and 2021. The rates were calculated from the quotient of the number of hospitalisations by the total population, followed by the multiplication by 10 thousand inhabitants. The SUS Hospital Morbidity Information System (SIH/SUS) and the Resident Population Estimated by the IBGE of the SUS Department of Informatics were used. Tabulation and calculations were performed in Excel.

RESULTS: In 2019, 36,185 thousand hospitalisations were registered by the SIH/SUS between the months of Jan. to Jun., in 2020 and 2021, in the same period, there were 28,932 and 8,367 thousand hospitalisations, respectively, a reduction of approximately 20% between 2019-2020 and 77% between 2019-2021. The rate varied from 1.71 cases/10,000 inhab to 1.36 cases/10,000 inhab and 0.39 cases/10,000 inhab from 2019 to 2020 and 2021 of the pandemic. January, February and March 2020 showed a trend of increasing hospitalisations for dengue, with 67.9% more records in absolute numbers compared to the same period in 2019, but in this period in 2021, there was a reduction of 69.4% compared with 2019. Between April and June 2020 and 2021 there was a drop of 52% and almost 80% respectively compared to 2019 in absolute numbers.

CONCLUSION: The endemic curve of dengue hospitalisations in Brazil in 2020 surpassed that observed in 2019 until epidemiological week 10, in March, with the incidence in line with that predicted by the average of the historical series and population estimate for the year. From the first confirmed cases of COVID-19 and its exponential increase, there was a drop in dengue hospitalisations, a trend that was accentuated in 2021. During this period, health actions were directed to combat the pandemic, generating an abrupt change in the data pattern, which suggests the hypothesis of underreporting in the period in which a seasonal increase in arboviruses and/or changes in the pattern of mosquito-host behaviour is expected.

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The increasing incidence of Lewy body dementia and its diagnostic challenge

Carneiro, T.P.; Gomes, V.M.; Junior, V.G.S; Luz, N.R[1]; V.G.S; Silveira, L.A.

ABSTRACT

INTRODUCTION: ADementia with Lewy bodies is a neurodegenerative disease characterised by the gradual accumulation of alpha-synuclein synaptic protein in brainstem, limbic and neocortical regions. Clinically, it is described by the progressive loss of cognitive functions and motor skills, behavioural changes, autonomic dysfunctions, cognitive fluctuations and complex visual hallucinations. As a result, it results in a reduction in the quality of life of patients and their families. Despite the growing rate of cases, it is believed that this number is underestimated, due to the misdiagnosis of other dementias, especially Alzheimer's.

OBJECTIVE: To describe the increasing diagnosis of dementia of Lewy bodies despite being underdiagnosed, due to clinical signs and symptoms similar to other dementias and psychiatric diseases.

METHODOLOGY: A literature review of national and international scientific articles was carried out, using the Scielo, Lilacs, Pubmed and Google Scholar databases. The inclusion criteria were articles from 2019 to 2021. The descriptors were "Dementia" and "Lewy Body Dementia".

RESULTS: AThe World Health Organization (WHO) estimates that in 2050 the incidence of dementia will be 152 million cases, that is, it will almost triple the current number of 47.5 million people with the diagnosis. Dementia due to Lewy bodies is the second most common neurodegenerative disease, after Alzheimer's disease, but underdiagnosis underestimates its true prevalence. The core clinical diagnostic criteria are recurrent visual hallucinations, spontaneous features of motor parkinsonism, cognitive fluctuation, and sleep behaviour disorder. Indicative biomarkers are reduced uptake of dopamine transporter in the basal ganglia on SPECT or PET, low uptake on myocardial scintigraphy with 123 I-MIBG and polysomnographic confirmation of REM sleep without atony. The presence of at least two central clinical features or a central clinical feature with one or more indicative biomarkers is necessary for the probable diagnosis, that is, there are still no specific and concrete criteria, which generates erroneous diagnoses.

CONCLUSION: Despite the clinical symptoms and biomarkers available, it is still not possible to make an early and accurate diagnosis of dementia with Lewy bodies, as well as adequate and specific clinical trials of neuroprotective therapies, due to the atypical presentation of some patients, the high cost and unavailability. of biomarkers in some regions. There is currently no cure for Lewy body dementia, treatment is based only on symptom control, in order to improve the quality of life of the patient and their families.

KEYWORDS: Lewy body dementia.

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Medical Association of Goiás
Av. Portugal, nº 1.148,
Ed. Órion Business & Health Complex,
15º andar, Setor Marista, Goiânia-GO.
CEP: 74.150-030 62 3285-6111
amg.org.br