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INDEX

DISCLOSURE AND SUPPORT

We started the year of 2023 by presenting to our qualified readers the 9th issue of the CEREM Goiás Scientific Journal. Consolidated, our publication plays an important role in the Goiás State Medical Residency Commission - CEREM Goiás, disseminating in a serious and transparent way the scientific work carried out by resident physicians and medical residency services in our region and supporting our main mission of helping the 24 Corenes of the state of Goiás, from an administrative and management point of view together with our resident physicians.

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EPIDEMIOLOGICAL AND CLINICAL-FUNCTIONAL PROFILE OF PATIENTS VICTIMS OF TRAUMATIC BRAIN INJURY: A CROSS-SECTIONAL STUDY

AMANDA MORAES DE SÁ[1], MARIELY LEONARDO ARAÚJO[1], GIULLIANO GARDENGHI[1,2,3], MARCOS FERNANDO TWEEDIE SPADONI[1], JOSÉ ROBERTO DE SOUZA JÚNIOR[4], LETÍCIA DE SOUZA PEREIRA[5]

ABSTRACT

Objective: The objective was to evaluate the epidemiological and clinical-functional profile of patients with TBI treated at a public hospital that is a reference in trauma care in Goiânia. Methods: It is an analytical cross-sectional study carried out in a trauma reference hospital between March and July 2021. Patients admitted to the wards, coming from the Intensive Care Unit or emergency, who met the eligibility criteria of the research, were evaluated. Information was collected from electronic medical records and applied to the Glasgow Coma Scale, the Montreal Cognitive Assessment, the Functional Independence Measure scale and the Medical Research Council. Results: The sample consisted of 70 individuals, 58% of whom were men, with a mean age of 40.40 (±15.41) years. Weekends corresponded to the days with the highest occurrences and hospitalizations, the main cause of TBI was the motorcycle accident and the use of alcohol was associated in 41.5% of the cases. The diagnosis of mild TBI was the most frequent and cognitive deficit and impairment of functional independence were identified. Conclusions: The biggest victims of TBI treated at a referral hospital for trauma in the state of Goiás are men of working age involved in motorcycle accidents under the influence of alcohol use. Mild injuries predominated and it was identified that the greatest functional repercussions of the individuals were on cognition and independence to perform daily activities.

KEYWORDS: EPIDEMIOLOGY; TRAUMATIC BRAIN INJURY; PUBLIC HEALTH

INTRODUCTION

According to the International Classification of Diseases (ICD 10), Traumatic Brain Injury (TBI) comprises trauma to the scalp, skull and brain1. In Goiás, from January to November 2021, 2,225 hospitalizations due to TBI were reported, 422 in Goiânia alone[2].

The diagnosis of TBI is made according to the trauma history, physical examination, and imaging tests[3] and can be classified as mild, moderate or severe[4]. The individual victim of TBI may suffer impairments in interpersonal, occupational and social functioning[5], which generates a great impact on public health due to socioeconomic and personal losses[6].

Knowing the epidemiological profile of TBI victims is a way to create prevention strategies aimed at reducing these injuries, since TBI can lead to secondary conditions that result in long-term impairment, functional limitation, disability and affect quality of life[5,7].

The literature is still scarce in studies that contemplate this population, mainly in the state of Goiás. In addition, existing studies do not explore the functional profile of these victims even during hospitalization, which is important to know so that it is possible to identify the patient who needs more attention during the hospital stay. This information helps in therapeutic planning with the aim of improving functionality and reducing impacts on health.

In view of this, the objective of the study was to evaluate the epidemiological and clinical-functional profile of TBI victims treated at a public hospital of reference in trauma care in Goiânia.

METHODOLOGY

Study design

It is an analytical cross-sectional study, approved by the Ethics and Research Committee of the institution by CAAE: 40360420.4.0000.0033. It was described following the recommendations of STROBE (Strengthening the Reporting of Observational Studies in Epidemiology).

Location

It was carried out between March and July 2021 at Hospital de Urgências de Goiás (HUGO). Patients admitted to the wards from the Intensive Care Unit (ICU) or emergency were evaluated.

1- Hospital de Urgências de Goiás, Goiânia
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ADDRESS
GIULLIANO GARDENGHI
Clianest, R. T-32, 279 - St. Bueno
Goiânia - GO, 74210-210
Telefone: +55 (62) 3604-1100
e-mail: coordenacao.cientifica@ceafi.edu.br

Participants

Patients aged ≥ 18 years were included; confirmed clinical diagnosis of TBI by the neurosurgery team and who agreed and signed the Free and Informed Consent Form (TCLE). Patients with a previous history of TBI, neurodegenerative diseases and cognitive impairment described in the medical records or reported by the companion were excluded; who were in deprivation of liberty; without companions and who did not have an adequate level of consciousness, according to the Glasgow Coma Scale (GCS), to sign the TCLE and those with incomplete medical records.

Variables

The main outcome of the study was the epidemiological and clinical-functional characterization of the participants. The following were collected: sex, age, day of the week in which the injury occurred, day of the week in which the patient was admitted to the hospital, diagnosis, type of TBI, cause of trauma, factors associated with trauma, type of treatment, ICU stay, time length of stay in the ICU, length of stay in the hospital, death. Additionally, the following data were collected: level of consciousness, cognitive score, level of functional dependency before and after injury, and muscle strength.

Instruments

Initially, patients were screened using the electronic medical record system. The fit patient was invited to participate in the research and explanations about the evaluations were made. After signing two copies of the TCLE, the collection and evaluations began.

The following data were collected from the medical records: name abbreviation, medical record number, sex, date of birth, age, hospitalization data, trauma-related data and clinical data and transferred to the clinical and epidemiological evaluation form created by the researchers.

Soon after, the ECG was applied, which defines the state of consciousness. The individual's reactivity is evaluated through three parameters: eye opening, verbal response and motor response. Each parameter receives a score, with 15 being the maximum score and indicating a normal level of consciousness. Patients with a score of eight or less are considered comatose[8].

Then the Montreal Cognitive Assessment (MoCA) was applied, used to detect mild cognitive impairment. Its score ranges from zero to 30, with higher scores indicating better cognitive function. The original cutoff point is 26 points, however, in the Brazilian adaptation, the cutoff point of 25 points showed greater sensitivity and specificity[9,10].

Then, the Functional Independence Measure (FIM) scale was applied, which assesses the inability of individuals with functional restrictions of various origins in carrying out daily activities. Each activity receives a score from one (total dependence) to seven (complete independence), with a total score from 18 to 126. The level of independence is classified according to the total score, with 18 points indicating complete dependence; 19 to 60 points modified dependency (assistance in up to 50% of the task); 61 – 103 points modified dependency (assistance in up to 25% of the task); and 104 – 126 points complete or modified independence11. Two measurements were performed: before the TBI and after the injury during hospitalization, just for characterization purposes.

Finally, muscle strength was assessed using the Medical Research Council (MRC), a scale that assesses peripheral muscle strength. Six movements are analyzed bilaterally. For each movement, muscle strength is graded between zero (total paralysis) and five (normal muscle strength). The total score ranges from zero (tetraplegia) to 60 (normal muscle strength), a total score below 48 points indicates significant weakness, and below 36 indicates severe weakness[12].

Bias

To reduce the risk of measurement bias, the application of the scales and tests at the bedside was performed by only one researcher.

Study size

To define the sample calculation, the total sample of the study by Passos et al.[13] was used as a reference, since it was a study carried out in a reference hospital in trauma with similar inclusion criteria. The calculation was performed after data collection, using a free online calculator available on the internet. Considering a confidence level of 95% and a 5% margin of error, the sample number was 70 individuals.

181 individuals were screened during the research period, of which 70 were included in the sample. The selection of participants is shown in the flowchart below (Figure 1).

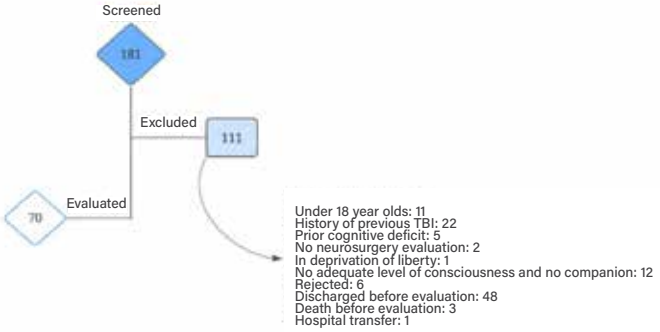

Figure 1: Sample selection flowchart

Statistical analysis

For statistical analysis, the statistical program Statistical Package for the Social Sciences - SPSS (version 20.0) was used. Initially, the Kolmogorv-Smirnov normality test was performed for quantitative variables. Mean and stan-

dard deviation were calculated for normal continuous variables, median and interquartile range for non-normal continuous variables, in addition to percentage and frequency for qualitative variables.

RESULTS

The sample consisted of 58 men (82.9%) and 12 women (17.1%), the mean age was 40.40 (±15.41) years. The epidemiological characteristics related to the lesions are described in table 1.

Variables	Values
Diagnosis	
Mild TBI	38.6%
Moderate TBI	31.4%
Severe TBI	30.0%
TBI type	
Closed	87.1%
Penetrating	12.9%
Type of Treatment	
Conservative	81.4%
Surgical	18.6%
Cause of TBI	
Car accident	12.9%
Motorcycle accident	40%
Fall from height	14.3%
Fall from own height	14.3%
Others	18.5%

Table 1 - Epidemiological characteristics related to the lesion

Mild TBI and the closed type were the most common and conservative treatment was predominant. The most common cause of TBI was the motorcycle accident, additionally, among the factors related to the causes, the use of alcohol stood out in 41.5% of the cases and the accident at work in 14.6%.

Regarding the characteristics of hospitalization, weekends were the most common days for injuries (57.1%) and hospital admission (61.4%). The other characteristics of hospitalization are described in table 2.

Variables	Values
ICU admission	
Yes	55.7%
No	44.3%
Days	18 (±11)
Length of Hospital Stay	16 (26)
Hospital discharge	94.2%
Death	5.8%

Caption: TBI: Traumatic brain injury
Table 2. Characteristics of hospitalization

The clinical-functional characterization of the participants is described in table 3.

Variables	Values
Glasgow Coma Scale	14 (3)
MoCA	16 (±5)
MRC	54 (18)
MIF	
Prior	126 (0)
Current	67 (79)

Caption: ICU: Intensive care unit; ( ) : interquartile range; ±: standard deviation

Table 3. Clinical and functional characteristics of the sample

The ECG score represents a confused level of consciousness, where participants might not be able to locate themselves in time and space. Regarding the MoCA, the sample presented a score corresponding to the presence of mild cognitive impairment. In the assessment of muscle strength, the score was above the cutoff point for significant weakness, and in terms of functionality, the individuals had complete independence to carry out their daily activities prior to the TBI and it was impaired after the trauma.

Regarding the functional classification according to the FIM, 44.3% of the sample was classified as modified dependence in 50% to carry out their daily tasks after the TBI.

DISCUSSION

The main findings of our study were that the main victims of TBI are men, with a mean age of 40 years, with injuries classified as mild. Motorcycle accidents were the major cause of TBI in our sample and alcohol use was present in most cases.

The literature states that the main victims of TBI in Brazil are male and this fact is probably due to the greater exposure of men to risky environments and situations[14,15,16]. Despite agreeing with our findings[6,17], the literature indicates a varied age range starting from 18 years[18]. It is common to find more reports of mild cases of TBI in Brazilian studies[17,18,19], however, some authors report difficulties in finding this data due to not completing complete medical records[20].

Traffic accidents have been leading the causes of TBI, especially in places where traffic laws and the use of protective equipment are not respected and inspection and preventive measures are not yet effective[21]. Some Brazilian studies also identified motorcycle accidents as the main cause of TBI[13,15,18]. Associated with this injury mechanism, the use of alcohol is frequently reported in the literature[22], in addition to a greater number of incident records and hospital admissions on weekends[13], as found in our study. This fact can be explained by the fact that the weekend is the period when people seek more entertainment, fun and leisure, which can influence behavior and result in thoughtless and irresponsible attitudes, such as the association of alcohol and driving[19].

The length of hospital stay found was the longest so far,

the literature indicates an average of 5 to 11 days of hospitalization[16,18,22]. Only the study by Smart et al[23] presented data similar to ours on ICU admissions, but the literature explains that the supply of ICU beds in hospitals that receive this patient profile varies[7], which may influence the results of other studies. In-hospital death is not as common, as found in our study, the literature describes rates of up to 22% for this population[24].

The literature indicates an average of 11 to 13 on the ECG, but these values are related to the moment of hospital admission and not during hospitalization as in our study[17,20,22]. It also indicates an average of 14 to 18 points in the MoCA in individuals after TBI, a result found in our study. However, it differs on its application in individuals with TBI, as it does not seem to be ideal for differentiating the level of cognitive impairment in relation to the extent of the brain injury. However, it proved to be sensitive to detect cognitive impairment in individuals with TBI due to its wide coverage of the domains of cognitive function[25,26].

Individuals who are victims of TBI, in addition to cognitive deficits, have physical sequelae that impair physiological efficiency and muscle strength and that impact functionality and independence to act on their lives and perform day-to-day activities[27,28,29]. In the study, muscle strength was assessed using the MRC and the sample had a score above the cutoff point corresponding to significant weakness. The functionality was evaluated through the FIM.

Only the study by Brooks et al.[30] used the FIM to evaluate individuals after one year of severe or moderate TBI, who obtained an average of 114 points, which represents complete or modified independence for carrying out daily activities. However, these individuals were evaluated after one year of injury and all were in rehabilitation programs, which may have influenced the result.

The literature is scarce in describing the functionality and muscle strength of individuals after TBI using the MRC and the FIM as assessment scales. Furthermore, this seems to be the first study that evaluated strength and functionality even during hospitalization, which limited the discussion of these topics. It is necessary to carry out more epidemiological studies that explore the profile of TBI victims, the causes, the factors associated with the injury, the relationship and the impact on independence and functionality, so that more effective prevention strategies can be created and the impacts social and health are reduced.

In addition, knowing the epidemiological and clinical-functional profile of TBI patients treated at institutions helps the multidisciplinary team to screen those who most need attention and in therapeutic planning even during hospitalization, so that long-term impacts are minimized.

As a main limitation of the study, the evaluation instruments stand out, which are not properly validated for TBI, however, there are no protocols or recommendations for exclusive evaluation instruments for TBI described in the literature.

CONCLUSION

In conclusion, it was identified that the main victims of TBI treated at a reference trauma hospital in the state of Goiás are men of working age involved in motorcycle accidents under the influence of alcohol. Despite the diversification in the diagnosis, mild lesions predominated. It was identified that the greatest functional repercussions of individuals were on cognition and independence to perform daily activities.

It is suggested that more studies that investigate this profile of individuals be carried out to know the functionality both in hospitalization and after hospital discharge. It is also suggested that functional scales be standardized for this type of injury and assessment protocols be created to better understand the deficits presented by this population.

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LAPAROSCOPIC FINDINGS OF ENDOMETRIOSIS IN PATIENTS AT CLÍNICA FÉRTILE - REPRODUÇÃO HUMANA IN GOIÂNIA-GO

LORRANA ESTEVAM FERNANDES[1] , HENRIQUE ESTEVAM FERNANDES AMARAL[3] , LUCIANA FERNANDES ROVER[4], WALDEMAR NAVES DO AMARAL[2]

ABSTRACT

Endometriosis is a pathological condition which endometrial cells develop outside the uterine cavity. The symptoms are varied (pelvic pain, dyspareunia, dysmenorrhea, among others) and the severity depends on the anatomical location affected. In addition, the pathology can stricken patients of any age, but it is most often found in women of reproductive age. In this regard, understanding the epidemiological profile of endometriosis can help in the development of health policies and in the knowledge of the risk of disease progression when untreated over time. In this work, 1400 reports of videolaparoscopies were analyzed, carried out in the period from 2015 to 2021, attended at the Fértile - Reprodução Humana (Goiânia-GO) clinic, laparoscopy exams performed in women aged 16 to 50 years were selected, who had endometriosis findings following the American Fertility Society staging. Subsequently, the data collected were systematized (according to age group, stage of endometriosis and the laparoscopic findings of endometriosis) and presented using graphical tools. From the analysis of selected and analyzed group (n = 206), the highest number (n = 18) was observed for women aged 34 years, representing 8.7%. Concerning the classification of the stage of the disease, stage IV was prevalent in the entire age group studied (< 35 years; 29.2%) and (35-50 years; 39.7%). Moreover, the most predominant laparoscopic finding of endometriosis was in the pouch of Douglas (n = 134; 65%). Thus, the identification of the epidemiological profile (age group/frequency, stage of endometriosis and laparoscope finding) will open the way for the determination of more efficient means for diagnosis and, consequently, effective treatment that does not present side effects.

KEYWORDS: ENDOMETRIOSIS; LAPAROSCOPIC FINDINGS; DIAGNOSIS; AMERICAN FERTILITY SOCIETY

INTRODUCTION

The prevalence of endometriosis in the world's female population of reproductive age from all ethnic and social groups is between 5% and 10% (approximately 190 million)[1]. It is a benign, chronic, estrogen-dependent and multifactorial pathology, which presents itself in the form of cysts and/or nodules in different places in the body. It is known that there is prevalence in the ovaries, the posterior cul-de-sac, the broad ligament and the uterosacral ligament[2,3].

The main clinical characteristics of this pathology are dysmenorrhea, dyspareunia and severe, chronic or acyclic pelvic pain, which in most cases coincides with menstruation[1,4]. There may also be other symptoms such as: dysuria, hematuria, urinary frequency and urinary urgency, abdominal distension, dyschezia, constipation, hematochezia, and anal pain. On the other hand, it is necessary to point out that some patients may be oligosymptomatic or even asymptomatic[4].

Regarding its diagnosis, anamnesis and physical examination are able to identify approximately 70% of cases of endometriosis. In this context, it is noteworthy that the presence of nodules or blackened roughness in the cul-de-sac after speculum examination are findings that suggest the disease. In addition, to the touch, the mobility of the uterus can be investigated, if reduced it can be indicative of pelvic adhesions. Furthermore, painful nodules in the posterior cul-de-sac may be associated with retrocervical lesions, uterosacral ligament, vaginal or intestinal wall. Under the same bias, adnexal masses may be related to endometriomas[4].

O expressivo desenvolvimento da Obstetrícia nas últimas décadas, associado ao ingresso de novas tecnologias, têm proporcionado diminuição do atraso no diagnóstico e consequentemente melhor assistência aos pacientes[6]. Todavia, ainda hoje, a média estimada do tempo entre o início dos sintomas até o diagnóstico definitivo é de sete anos[4,5].

The expressive development of Obstetrics in recent decades, associated with the entry of new technologies, has provided a reduction in the delay in diagnosis and, consequently, better patient care6. However, even today, the estimated average time between the onset of symptoms and the definitive diagnosis is seven years[4,5].

1 - Hospital e Maternidade Dona Íris
2 - UFG GO
3 - UNIFENAS Campus BH
4 - Unirv Campus - Ap. de Goiânia

ADDRESS
PATRÍCIA GONÇALVES EVANGELISTA
Alameda Emílio Póvoa, 165 - Vila Redenção,
Goiânia - GO, 74845-250
E-mail centrodeestudoshdmi@gmail.com

Therefore, when the suspicion of the pathology is identified, it is necessary to use other auxiliary methods for the confirmation and staging of the disease. In this context, pelvic and transvaginal ultrasound and magnetic resonance imaging are the main methods used[1,4]. It should be noted that the definitive diagnosis is made through biopsy of the endometriotic lesion[7].

Furthermore, biomarkers have been sought as methods of screening and early identification of endometriosis. Although promising, none of the methods developed so far has high sensitivity and accuracy for use in clinical practice1. In this context, cancer antigen 125 (CA-125) is the most researched peripheral biomarker used in the investigation of endometriosis. Although CA-125 levels in peripheral blood have no diagnostic power for endometriosis, due to low sensitivity, serial CA-125 measurements are an important resource to help identify recurrence after clinical or surgical treatment[8].

From this therapeutic point of view, endometriosis represents a great challenge, since, so far, there is no cure and its recurrence throughout life is known. Thus, each case should be evaluated individually, observing the symptoms, the extent of the disease, organ involvement, age and the desire to conceive[5].

Therapeutic options are medication and/or surgery. Regardless of the treatment chosen, it is important that the patient is monitored by a multidisciplinary team with complementary therapies such as physical activity, physiotherapy and acupuncture[1,4]. Furthermore, patients with chronic pain are more likely to develop depression and stress, thus requiring psychological assistance[4].

Currently, there is no effective prevention of endometriosis, which makes the disease even more challenging1. Thus, it is a public health problem, with a significant impact on physical health, mainly due to chronic pain symptoms, and on mental health due to the prognosis, in many cases, coursing with depression and anxiety. In addition, it is noteworthy that the health costs involved in the diagnosis and treatment of endometriosis are high and can be similar to other chronic diseases with a high impact on global society[1,4,9].

Therefore, the present study aimed to carefully assess the prevalence of endometriosis in patients at the Clínica Fértile - Reprodução Humana in Goiânia, Goiás, from 2015 to 2021, identifying the number of women affected, the most frequent findings of this pathology and the prevalence of alterations ultrasound according to the age of the patients.

METHODOLOGY

This is a cross-sectional, descriptive, retrospective and quantitative study, with secondary data collection and approved by the Research Ethics Committee (CEP) of the Hospital e Maternidade Dona Íris (Goiânia-GO) (opinion number: 5,434,401). Initially, 1400 videolaparoscopy reports, performed in the period from 2015 to 2021, were analyzed and selected according to the following inclusion criteria: i) diagnostic laparoscopy exams performed in women aged 16 to 50 years, attended at Clínica Fértile - Reprodução Humana; ii) reports that presented findings of endometriosis; iii) reports that follow the staging of the American Fertility Society[10]. Patients who did not meet all previously reported inclusion criteria, inconclusive, erased and/or illegible reports were excluded from the study. After collecting and systematizing the data obtained, they were described through graphical representation and analyzed in order to identify the epidemiological profile in relation to age group, stage of endometriosis and laparoscopic findings.

RESULTS AND DISCUSSION

Endometriosis is a highly prevalent pathology and has a significant social and economic impact on women's quality of life9,11. Regarding its pathophysiology, a better understanding is still needed, however, it is believed that it is a multifactorial pathology, including alterations in the tubal anatomy, mechanisms of production of inflammatory mediators, with damage to the oocytes and reduction of Anti-Mullerian hormone (AMH) with impact on follicular reserve[12].

In the present study, the epidemiological profile of endometriosis was evaluated in patients at the Clínica Fértile - Reprodução Humana em Goiânia, Goiás, from 2015 to 2021, through the analysis of videolaparoscopies. In addition, the distribution of the stage of endometriosis according to age group was studied, as well as the laparoscopic findings of endometriosis in the study group were described and discussed. The information collected and analyzed relating age and findings of endometriosis can contribute to understanding the epidemiological profile of the study group and the risk of disease progression when not treated over time[10].

The study started with the analysis of 1400 videolaparoscopy reports, excluding (n = 1194) the reports that did not present endometriosis findings or that did not use the American Fertility Society staging of endometriosis[10], resulting in a sample of 206 reports, according to described in Figure 10.

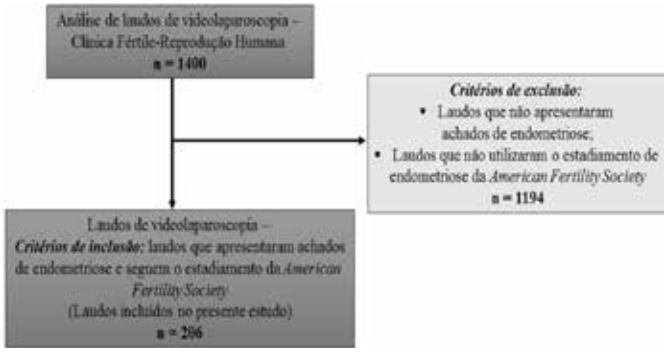

Figure 10 - Inclusion and exclusion criteria for videolaparoscopy reports analyzed in this study.

In the selected study group (n = 206), it was possible to show the epidemiological profile regarding the age group and the laparoscopic findings of endometriosis at Clínica Fértile - Reprodução Humana in Goiânia, selecting only the reports that present findings of endometriosis and that follow the staging from the American Fertility Society (Figure 10).

From the analysis of the videolaparoscopic reports of the selected patients (n = 206), a great variation in the age of the patients was observed, as described in the histogram (Figure 11). It is noted that the selected patients were aged between 16 and 50 years, with the age of 34 years being the most quantitatively prevalent (n = 18), representing 8.7% of the total, and the lowest quantitative (n = 0) was observed for the ages of 19, 21 and 50 years. In addition, a higher prevalence was identified between 28 and 38 years old, corroborating with several studies reported in the literature (Figure 11)[13,14,15]. Furthermore, Gheorghisan-Galateanu and Gheorghiu reported the existence of a prevalence peak between 25 and 35 years of age[16].

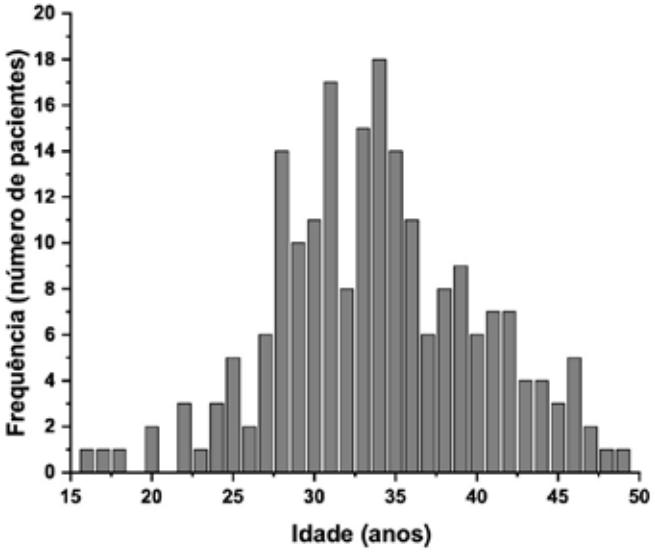

Figure 11 - Histogram of age (years) of the studied patients with endometriosis (n = 206).

Endometriosis is a hormone-dependent disease, so most symptoms tend to appear at menarche, progressing into adulthood, when the main symptoms and complications (pelvic pain and/or infertility) can finally become debilitating and require some surgical protocol[17]. In this context, Stochino-Loi and co-authors carried out a study with 1560 women and observed several correlations between age, the presence of nodules and the degree of the pathology. In this study, the authors described a low rate of deep colorectal nodules for women aged up to 20 years and a progressive increase in women aged up to 30 years, remaining stable after that age. The authors also observed that the diagnosis and surgical protocols usually occur between 26 and 30 years of age. Therefore, it is suggested that early diagnosis and prevention of endometriosis should focus on women aged up to 25 years[18].

In addition to understanding the relationship between age group and endometriosis, classifying the stage of endometriosis is important to verify the progress of the pathology, determine and standardize appropriate treatment protocols and facilitate doctor-doctor and doctor-patient communication[19]. In this sense, the American Society for Reproductive Medicine (rASRM) developed a classification, divided into four stages (I-IV) and determined by means of a sum of points (score), considering the following criteria: peritoneal implants and endometriomas (location, size and penetration), the degree of obliteration of the rectum and adhesions (extent of surface involvement and appearance), depth and degree of involvement of the affected organs[20]. Thus, after selection of the study group (n = 206), the women were evaluated and classified according to the stages reported by the rASRM (Figure 12). In a general context, the severity of endometriosis is classified and reported according to the following stages: stage I (minimal endometriosis); stage II (mild endometriosis); stage III (moderate endometriosis) and stage IV (severe endometriosis)[19].

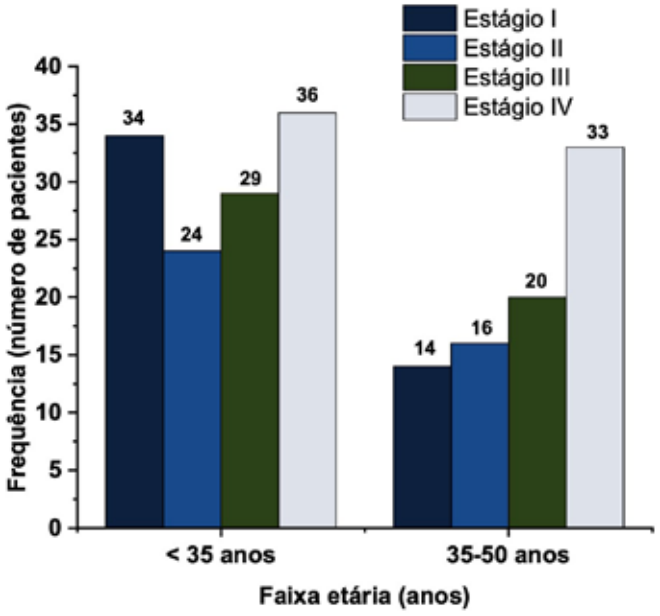

Figure 12 - Determination of stage I-IV of endometriosis according to the age group (years) of the studied population (n = 206).

From the analysis of Figure 12, 123 women aged < 35 years were evaluated, being classified according to the rASRM, presenting the following stages and quantitatives: stage I (n = 34 women; 27.6%); stage II (n = 24 women; 19.5%); stage III (n = 29 women; 23.5%) and

stage IV (n = 36 women; 29.2%). As for the age group between 35 and 50 years, 83 women were studied and classified: stage I (n = 14 women; 16.8%); stage II (n = 16 women; 19.2%); stage III (n = 20 women; 24.0%) and stage IV (n = 33 women; 39.7%). The classification used in the present work is the main and most widespread way to classify endometriosis in different studies and countries[10,21,22]. In addition, it is important to emphasize that the stage of the disease is not necessarily correlated with the severity of the symptoms (for example, pain, depressive symptoms and chronic fatigue), as demonstrated by Warzecha et al[23]. Therefore, the therapeutic protocols based on the classification are modified periodically and according to the clinical condition of the patient, that is, individualized[20].

With regard to the different stages of endometriosis, a decrease in fertility was also observed with the increase in the stage of the disease[24] (GUZICK et al., 1997). In this context, in line with Guzick et al[24], Warzecha and collaborators reported that the incidence of infertility increased with the stage of the disease (stage I-52.8%; stage II-66.7%; stage III-61.3%; stage IV-96%)[23]. Furthermore, Barbosa and co-authors did not observe significant differences in live births, clinical pregnancy and spontaneous abortion, but the number of recovered oocytes was lower in women with stage III and IV endometriosis[25]. Thus, as identified in the present study, there are a large percentage of women of childbearing age with stage IV endometriosis (severe endometriosis), with medical follow-up and treatment attempts being extremely important to avoid infertility[26].

Additionally, the epidemiological profile of laparoscopic findings of endometriosis was studied (Figure 13). According to the literature and clinical protocols, the evaluation should be performed in the entire female reproductive system, including the pelvic peritoneum, uterus, ovarian fossa, ovaries, uterine tubes, retrocervical region, with evaluation of the uterosacral ligaments and the cul-de-sac or pouch of Douglas[27]. Through the analysis of laparoscopic reports (n = 206), most of them observed more than one finding per patient, totaling 334 laparoscopic findings. The observed laparoscopic findings were analyzed and divided into 6 groups, with the following quantitative: cul-de-sac (n = 134; 65.0%); ovary (n = 118; 57.2%); uterine tube (n = 33; 16.0%); ligaments (n = 25; 12.1%); bladder (n = 16; 7.7%); others (n = 8; 3.8%), as shown in Figure 13.

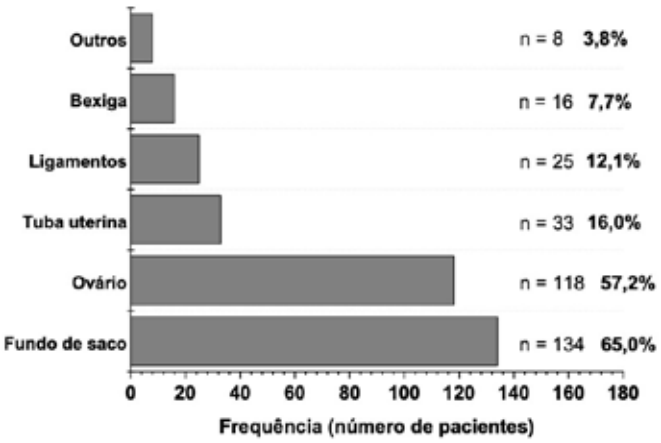

Figure 13 - Laparoscopic findings of endometriosis from Clínica Fértile - Reprodução Humana, from 2015 to 2021 (total number of patients, n = 204; total number of laparoscopic findings of endometriosis, n = 334).

From the analysis of the study group, a higher prevalence of cul-de-sac was observed (n = 134; 35.0%), and, according to the literature, the main associated symptom in these cases is dyspareunia[5,28]. In addition, the findings of the present study are in line with the literature, presenting the cul-de-sac and the ovary as the most common areas affected by endometriosis[28,29].

It is also noteworthy that in the present study, the ovary was the second most affected area by the pathology (n = 118; 57.2%). It is worth mentioning that several studies indicate that there is a relationship between endometriosis and the development of cancer, with the ovary being the organ most affected by this condition[4,30]. Thus, endometriomas diagnosed in perimenopause and/or larger than 3 cm are indicated for total removal[4,8].

CONCLUSION

The study of the epidemiological profile of the selected group allowed identifying that endometriosis was prevalent in patients aged between 28 and 38 years, with greater tropism for the cul-de-sac or pouch of Douglas. It is evident that in this anatomical region, dyspareunia is the predominant complaint, therefore, women with this symptomatology should be investigated presumptively, in order to rule out, as soon as possible, the diagnosis of endometriosis. Furthermore, given the findings and the complexity of the disease, screening can be suggested, especially in the geographic region targeted by the study, for women aged 25 years. All this, seeking to ensure early diagnosis, adequate treatment and, therefore, avoid the most serious conditions. Finally, it is emphasized that, at the time of diagnosis, due to the possible impacts on physical and mental health, a specialized multidisciplinary team must assist the patient in all its biopsychosocial aspects.

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PROFILE OF WOMEN UNDERGOING UTERINE CURETAGE IN A PUBLIC MATERNITY

LUDMIRA FORTUNA SANTOS[1], LAURA ARAÚJO DE CARVALHO[3], THAYS BARBIERI POLONIATO[4], LAZARO EDSON LEMES DE SOUZA GUERRA[3], WALDEMAR NAVES DO AMARAL[2]

ABSTRACT

Introduction: In women's health care, some conditions indicate the emptying of the uterine cavity in case of suspected retention of placental tissues for delivery and for abortion treatment. Objective: To describe the indications and profile of women undergoing uterine curettage. Method: Observational study with cross-sectional, descriptive design and quantitative approach, with secondary data collection in physical/electronic medical records between January and July 2022, performed at Hospital e Maternidade Dona Íris. The data were entered into the statistical software Microsoft Office Excel spreadsheet, applied simple statistics with absolute and relative frequency. Results: Of the total number of women undergoing uterine cavity emptying procedure due to retained placental tissues, 82% were due to miscarriages, of these, 74% were referred to uterine curettage and 8% to Manual Vacuum Aspiration (MVA). We identified as relevant in this study the sociodemographic variables age range of 20 to 39 years (84%), not living with a partner (72%) and having completed high school (56%).

Conclusion: It was observed the uterine curettage as the main method adopted for uterine evacuation due to abortion, women of childbearing age, multiparous, without partnership and low adherence to prenatal care. We suggest actions for abortion care, especially education about the use of available methods.

KEYWORDS: COMPREHENSIVE WOMAN'S HEALTH CARE. UTERINE CURETTAGE. VACUUM CURETTAGE. UNIFIED HEALTH SYSTEM.

INTRODUCTION

Uterine curettage is a surgical procedure used in obstetrics to treat miscarriage, characterized by emptying the uterine cavity with or without mechanical dilation of the uterine cervix [1].

According to a study by the World Health Organization (WHO), approximately 55 million abortions are estimated between 2010 and 2014 in the world, the vast majority of which occur in underdeveloped countries [2]. Abortion complications are responsible for 15% to 20 % of all deaths related to pregnancy, representing one of the main causes of maternal mortality in Brazil, being related to social inequality and remaining a global problem [3,4].

Miscarriage is a hemorrhagic syndrome of the first half of pregnancy, characterized by termination of pregnancy with a product of conception weighing less than 500 grams and with a gestational age of less than 22 weeks or with a height of less than 16 cm, before viability is achieved, in women in the age range from 15 to 44 years old[4].

In these cases, post-abortion curettage represents the second most common obstetric procedure performed in public health institutions. The curettage procedure consists of scraping material from the uterine wall, which can cause complications such as perforation of the uterus and sepsis, thus representing a cause of maternal morbidity and mortality[5].

In women's health care, other conditions also indicate emptying of the uterine cavity. In case of suspected retention of placental tissues immediately after delivery, uterine curettage is performed as a therapeutic approach to postpartum hemorrhage (PPH)[6,7].

The retention of placental tissues is one of the causes of PPH, representing an obstetric emergency that corresponds to the major cause of maternal mortality worldwide [8].

Based on the above, the objective of this research will be to describe the indications and the profile of women undergoing uterine curettage in a public maternity hospital, a reference center in maternal and child health in the Midwest Region.

METHODOLOGY

This is a cross-sectional, descriptive, retrospective study with a quantitative approach. The cross-sectional study is an epidemiological research strategy that analyzes factor and effect in a given place and time, determining incidence and prevalence of a phenomenon[8]. The research took place

1 - Hospital e Maternidade Dona Íris
2 - UFG GO
3 - PUC GO
4 - HMDI

ADDRESS
PATRÍCIA GONÇALVES EVANGELISTA
Alameda Emílio Póvoa, 165 - Vila Redenção,
Goiânia - GO, 74845-250
E-mail centrodeestudoshdmi@gmail.com

at the Hospital e Maternidade Dona Iris, of a municipal public nature, located in Goiânia, Goiás, a reference in maternal and child health care for the municipality and metropolitan region. Secondary data collection was carried out by collecting data from physical/electronic medical records, based on a semi-structured instrument on sociodemographic characteristics, personal and obstetric history, between the months of January and March 2022.

For this study, the following variables were considered: age; self-declared race; marital status (lives with a partner or lives without a partner) and previous comorbidities. Regarding the clinical and obstetric aspects, the following variables will be analyzed: parity, had prenatal care, number of prenatal consultations, gestational age (in weeks), uterine curettage (post-abortion or postpartum), Manual vacuum Aspiration (MVA) and mode of delivery (vaginal or cesarean section).

Data was entered into the statistical software Microsoft Office Excel, fed into an electronic spreadsheet, later simple statistics were performed with absolute and relative frequency. The use of the Informed Consent Form (TCLE) will be waived because it is a descriptive research, with secondary data collection. Because it deals with secondary data collection, there was a waiver of the use of the Free and Informed Consent Form (TCLE) because it is a descriptive research, with secondary data collection. This research was approved by the Research Ethics Committee of Hospital e Maternidade Dona Íris, under the number 5.784.215 and respected the ethical principles in research involving human beings according to Resolution 466/20129.

RESULTS

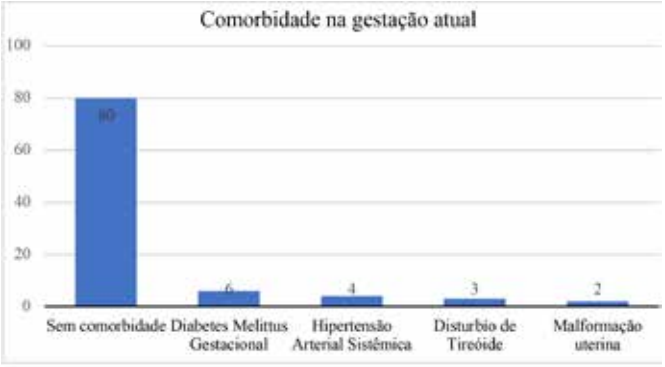
A total of 95 women who underwent uterine evacuation vaginal delivery from January to March 2022 were analyzed. The prevalence of post-abortion curettage was 68 (72%), postpartum curettage 19 (20%) and 8 procedures with MVA, representing 8% of the sample. Of the total number of pregnant women analyzed, 80 (84%) were between 20 and 39 years old, most of whom were multiparous, 73 (77%), and did not live with a partner, 68 (72%).

Table 1 presents the obstetric characterization of women who underwent uterine evacuation.

Variables	N	%
Age, years		
17 - 19	8	8
20 - 39	80	84
40 - 44	7	7
Education level, years		
< 9	29	30
≥ 9 e < 12	53	56
≥ 12	13	14
Marital status		
Lives with partner	27	28
Lives without partner	68	72
Prenatal		
Yes	46	48
No	49	52
Number of consultations		
≤ 6	39	41
> 7	7	7
Did not perform	49	52
Parity		
Nulliparous	22	23
Multiparous without c-section	42	44
Multiparous with c-section	31	33

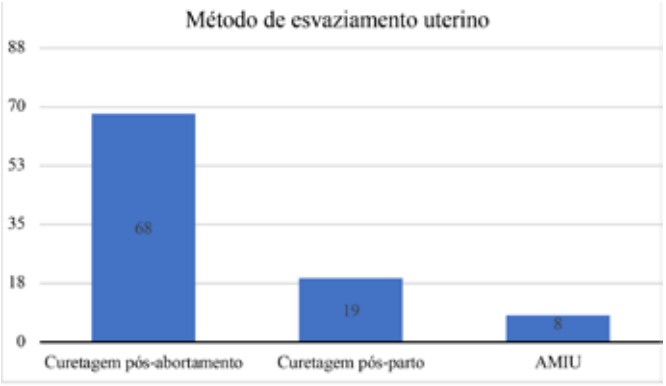
Table 1. Sociodemographic and obstetric characterization of women undergoing uterine evacuation, Goiânia, Brazil, 2022 (n= 95)

Graph 1 presents the characterization of comorbidities in women undergoing uterine evacuation, in which 80 (84%) denied having any comorbidity, 6 (6%) were diagnosed with Gestational Diabetes Mellitus, followed by 4 (4%) with Systemic Arterial Hypertension.



Graph 1. Characterization of comorbidities in women undergoing uterine evacuation, Goiânia, Brazil, 2022 (n= 95)

Graph 2 shows the methods used for post-abortion and immediate post-delivery uterine emptying.



Graph 2. Characterization of comorbidities in women undergoing uterine evacuation, Goiânia, Brazil, 2022 (n= 95)

Table 2 presents the methods used for uterine evacuation stratified by gestational age.

Variables	N	%
Post-abortion curettage	**70**	**74**
≤ 12 weeks	42	60
> 12 to ≤ 22 weeks	21	30
Anembryonic pregnancy	7	10
Postpartum curettage	**17**	**18**
> 37 weeks	12	70
> 22 to 36 weeks and 6 days	5	30
MVA	**8**	**8**
≤ 12 weeks	7	90
> 12 to ≤ 22 weeks	1	10

Table 2. Characterization of methods used for uterine evacuation stratified by gestational age, Goiânia, Brazil, 2022 (n= 95)

DISCUSSION

Of the total number of women submitted to the procedure of emptying the uterine cavity due to retention of placental tissues, 82% were due to miscarriages, of these, 74% were referred to uterine curettage and 8% to Manual Vacuum Aspiration (MVA). The sociodemographic variables age group 20 to 39 years old (84%), not living with a partner (72%) and having completed high school (56%) were identified as relevant in this study.

Sociodemographic findings corroborate data from a study carried out in Piauí, which described the profile of women who underwent post-abortion uterine curettage in a public hospital [5,10]. According to the World Health Organization, 50% to 80% of abortions occur in the age group of 20 to 29 years, due to the greater probability of women in this age group being sexually active and fertile, resulting in an increase in the number of pregnancies[11]. In general, this age group is predominant in studies on abortion or on problems related to pregnancy, which may suggest a decrease in the number of abortions among adolescents.

In this study, a high percentage (72%) of women reported not having a partner, diverging from studies carried out in other Brazilian states, in which most women had a partner[3,5]. The instability in the marital relationship observed in this study can be considered a risk factor for abortion.

Regarding reproductive data, most (77%) had at least one previous pregnancy, of which (33%) had a surgical delivery. It is known that increased parity and previous uterine scarring are risk factors for accretism and abnormal adhesion of the placental tissue in the uterine cavity, requiring curettage as a form of treatment, and in more severe cases hysterectomy[12].

It draws attention to the fact that half (52%) of the wom-

en did not start prenatal care, suggesting a prevalence of incipient and unplanned pregnancies. Adequate adherence to prenatal care allows early identification of gestational intercurrences, corroborating with the reduction of risks for the binomial, being essential for the promotion of maternal and neonatal health[9,13].

The prevalence of comorbidities in the studied sample was lower than in another study[5]. It is a consensus in the literature that systemic arterial hypertension and Gestational Diabetes Mellitus (GDM) are risk factors for adverse maternal-fetal outcomes because they cause changes in the vascularization of the decidua. In this way, compromising the proper functioning of the placenta and making pregnancy unfeasible. Diagnosis of GDM was observed in 6% of the investigated women, meanwhile, poorly controlled diabetes is associated with congenital malformations, pre-eclampsia, fetal macrosomia and fetal macrosomia intrauterine death[14,15]. Therefore, the importance of early prenatal care is reinforced in order to reduce fetal risks.

In this investigation, the type of abortion was not evaluated, it was important to analyze the procedure used for its treatment. As in other studies, uterine curettage was observed as the main method adopted for uterine emptying, 74%, of which 60% were performed in pregnancies of less than 12 weeks[16,10]. This procedure is widely used in post-abortion treatment, representing the third most frequent obstetric procedure in health establishments affiliated with the Unified Health System [18]. However, it is associated with greater complications such as uterine perforation, placental tissue permanence, hemorrhage and infection[16].

The MVA procedure was performed in 8% of the abortion cases found in the analyzed period, lower than that found in another research16. For the management of abortion, the Ministry of Health recommends the use of vacuum aspiration (MVA) or medical abortion, which is defined by the successive use of mifepristone and misoprostol or misoprostol alone, in the event of abortion in the first trimester of pregnancy (≤ 12 weeks). In cases where it occurs after 13 weeks of pregnancy, dilation and evacuation or medical abortion is recommended[15]. It is also recommended by the International Federation of Gynecology and Obstetrics (FIGO), as it is safer, faster and less painful when compared to curettage, in addition to shorter hospital stay, although it is expensive[18].

One of the study's limitations is the fact that the analyzed data came from medical records, which could lead to bias, as data collection depends on the completeness of the notes. Also, the possibility of bias in the responses of pregnant women when filling out the medical record is considered. It is suggested further studies that consolidate the risks and benefits related to the methods in the place of study.

FINAL CONSIDERATIONS

In this study, uterine curettage was observed as the main method adopted for uterine emptying due to abortion, followed by a small percentage of postpartum curettage, in an age group with a greater probability of being fertile. Therefore, it proves to be the most performed procedure in obstetric practice, although there are alternative methods with fewer adverse effects.

Reproductive data indicate higher rates of multiparous women, with at least one previous birth, with low or no adherence to prenatal care and with marital instability, factors that are related to higher abortion rates, and similar to what is found in the literature. A small prevalence of gestational diabetes mellitus and chronic arterial hypertension was found, however, the importance of adequate prenatal care for the good development of pregnancy is reinforced.

Thus, the data make it possible to subsidize the planning and implementation of care actions, especially regarding abortion, in particular education about the use of available methods.

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ECTOPIC PREGNANCY IN PREVIOUS CESAREA SCAR: A SERIES OF CASES

ANA CAROLINA DE PAULA VASCONCELOS[1], WALDEMAR NAVES DO AMARAL[2]

ABSTRACT

Introduction: Ectopic pregnancy in cesarean section scar (CSEP) consists of implantation of a blastocyst in the myometrium of a scar from a previous cesarean section. The incidence of CSEP has been increasing in parallel with the increase in cesarean sections and currently ranges from 1:1800 to 1:2216 pregnancies. Objective: To report a series of cases and their outcomes, to know the sonographic characteristics that corroborate the diagnosis and to identify the associated major complications, to discuss the forms of treatment and to report the evolution after the resolution of the condition. Method: Case series. Discussion: The best therapeutic proposal in cases of CSEP is the interruption of pregnancy in the first trimester to prevent the fearful complications inherent to the myometrial implantation of the fetus (hemorrhage and uterine rupture). Expectant management is inadvisable and is associated with exceptionally high morbidity and mortality. The patient profiles of the cases fit the risk factors cited in the studies. All cases had a previous cesarean section and a diagnosis of ectopic pregnancy in a cesarean scar; mean age: 31.25 years (29-33 years); average parity (gesta): 3 (G5-G2). In this way, we meet what the literature cites as the main risk factors. In cases 1 and 3, patients were treated through ultrasound-guided uterine evacuation associated with drug treatment. Case 2 received drug treatment with methotrexate through an intramuscular dose and later, added to the intra-gestational sac injection of the drug. And in case 3, the patient received drug treatment and, after bleeding, underwent surgical treatment with a diagnosis of placenta accreta through hysteroscopy. In all cases, the patients were diagnosed early, amenable to conservative treatment and had their fertility preserved. Final considerations: A good approach to ectopic pregnancy in cesarean scar after early diagnosis with USG and Doppler performed by an experienced team has the power to change the patient's prognosis and reproductive future.

KEYWORDS: PREGNANCY, ECTOPIC, CESAREAN SECTION, SCAR, METHOTREXATE

INTRODUCTION

Health education in Brazil about the occurrence of ectopic pregnancy in a cesarean scar is of paramount importance, since there is an exponential increase in the number of cesarean sections over time and, despite being a rare form, its incidence has been occurring on an increasing basis. It is observed that there is a scarcity of case reports and studies on the subject and deepening the knowledge of gynecologists and ultrasonographers regarding this rare form of ectopic pregnancy, enables the early detection and prevention of bleeding complications, as well as the reduction of incidence of urgent hysterectomies and even maternal death from this cause.

Ectopic pregnancy is the implantation of the blastocyst outside the lining of the uterine cavity, an implantation that can occur in the tubes, ovaries, cervix or uterine horns, abdominal cavity and in the scar of a previous cesarean section1. The implantation of a pregnancy in the cesarean scar is considered the rarest presentation of ectopic pregnancy with high morbidity and mortality [2].

The first report of cesarean section scar ectopic pregnancy (CSEP) was carried out in 1978 by Larsen and Solomon, being described as a post-abortion hemorrhage due to a saccule in the uterine scar of a previous cesarean section [3]. In recent decades, due to the increasing frequency of cesarean sections, there has been an increase in reports about this new complication [4].

Because it is a rare condition, there is no universal protocol for treatment nor an ideal approach in terms of safety and therapeutic efficacy. Most literature recommends termination of pregnancy during the first trimester. In this sense, the objective of the treatment should be to prevent the pregnancy before a possible uterine rupture, remove the entire gestational sac and preserve the fertility of these women whenever possible [4].

The present study aims to report a series of cases of CSEP, describing the sonographic diagnosis and the different therapeutic approach in each one.

METHODS

The work will be of the Case series type, which is characterized as a descriptive study. Its valuation is based on the premise that problems can be solved and practices can be improved through the description and analysis of

1 - Hospital e Maternidade Dona Íris
2 - UFG GO

ADDRESS
PATRÍCIA GONÇALVES EVANGELISTA
Alameda Emílio Póvoa, 165 - Vila Redenção,
Goiânia - GO, 74845-250
E-mail centrodeestudoshdmi@gmail.com

objective and direct observations. The techniques used to obtain information are quite diverse, with emphasis on medical records, laboratory and imaging tests and photos authorized by the patient.

As for the ethical aspects, it should be noted that the research will be based on Resolution n. 466/2012, thus ensuring the rights of those involved. This research will be approved by the Ethics Committee indicated by Plataforma Brasil and will only be developed with the patient's authorization with the signing of the Informed Consent Form.

The study will only contain the analysis of care protocols, medical records, diagnosis and indicated forms of treatment. The risks present here are in relation to the exposure of the history of care and patient data present in the medical records.

Benefits refer to understanding the diagnosis and treatment, generating knowledge for the medical profession.

CASE REPORTS

CASE 1

Patient FGMC, 33 years old, G2P1c, without use of a contraceptive method (never adapted to the use of oral contraceptives) had irregular cycles, but started with symptoms of nausea, fatigue, symptoms similar to her previous pregnancy and suspected a new pregnancy, had an episode of discrete and painless vaginal bleeding lasting 1 day and opted for a positive pregnancy test, she had her first USG on 06/28/22 with a normally inserted gestational sac, irregular, measuring 26 x 15.8 x 17.7mm, yolk sac present and anomalous, embryo present with CRL 6.3mm, BCF 75bpm and presence of areas of retrotrophoblastic detachment in the bottom of the uterine cavity measuring 29.6 x 10.4 x 21mm, the ultrasound on that day showed topical pregnancy with 6 weeks and 4 days biometry (CRL 6.3mm) with uterine volume of 130.35 cm^3. BETA-HCG on 06/29/22 of 66,939 mIU/mL). She was instructed to use utrogestan, rest and follow-up with USG. From the beginning, there was already a suspicion of an unviable pregnancy due to the shape of the GS, fetal bradycardia. During follow-up the patient presented intermittent vaginal bleeding and mild colicky pain.

On 07/02/22, the patient, being a physician and radiologist, opted for a magnetic resonance imaging of the pelvis showing an elongated and irregular gestational sac on its lower margin where it projects into the anterior isthmic region, a probable site of isthmocele, covered by thin myometrium and subchorionic hematoma at the upper margin of the gestational sac with a volume of 14mL.

A new USG performed 1 week later, on 07/06/22, showed an irregular GS inserted in the uterine isthymic/cervical region, with projection of the trophoblast towards the previous cesarean scar and internal cervical os with hypervascularization in this region, an area of trophoblastic detachment of 3.1 x 2 x 2.4, exam compatible with missed abortion and anomalous insertion of the gestational sac, perception of bleeding like coffee ground after the exam (Figure 1).

Figure 1. Endovaginal ultrasound image of ectopic pregnancy in the cesarean scar.

She was referred to a specialist and a USG was performed, which showed an area of increased vascularization in the cesarean scar on Doppler, and she was instructed to perform a local injection of MTX into the gestational sac, performed on 07/07/22. She was discharged the next day with a prescription for oral contraceptives, she was instructed to perform weekly BETA-HCG and repeat USG after negative BETA-HCG. About 4 days after the procedure, the patient presented with moderate bleeding with amorphous material output and afterwards, she remained with slight bleeding for about 2 weeks.

The patient is still undergoing weekly laboratory/ultrasound follow-up. Denies vaginal bleeding or abdominal pain at the time and last BETA-HCG (day) was 77 mIU/mL.

CASE 2

Patient, EMJ, 29 years old, G3P1N1CA1, with a bicornuate uterus, history of two premature births, the first normal and breech, the second cesarean section, and the last ectopic pregnancy in the cesarean scar that was recently interrupted at 16 weeks. On 01/22/22, the patient presented the first symptoms, while cleaning her house, presenting abdominal pain followed by vaginal bleeding. A beta-hCG test was performed on 01/24 which was positive and she scheduled an appointment with a specialist. She had moderate and persistent abdominal pain, initially colicky and then more severe with moderate vaginal bleeding, which became mild during follow-up and lasted for several months. USG performed by a specialist on 02/02/22 with diagnosis of ectopic pregnancy in the cesarean scar with live embryo and CRL of 7mm. Conservative treatment with 1 intramuscular Methotrexate dose was indicated.

USG on 02/06/22, pregnancy continued to evolve with elevated beta-hCG of 50655 mUI/mL, therefore, a dose of intra-gestational sac Methotrexate was indicated. After the procedure, the imaging exam on 02/25 showed ectopic pregnancy in regression. Beta-hCG was evaluated once a week until negative and the patient was discharged with a contraceptive prescription for contraception (Figure 2).

Figure 2. Endovaginal ultrasound image of ectopic pregnancy in the cesarean scar.

CASE 3

Patient, WCGSL, 31 years old, G5P1C1NA2 in May 2020 began to experience nausea and brownish vaginal discharge, without abdominal pain. She had a positive beta-hCG test and, after performing a TVUS, an ectopic pregnancy in a cesarean scar was suspected, and was referred to a specialist. USG on 05/29/20 with a 4cm pregnancy in the cesarean scar, being prescribed intramuscular methotrexate single dose. One week after medication beta-hCG was 320 mIU/mL (060/4/20). In weekly follow-up with ultrasound and beta-hCG, on 06/12/20 the examination showed a mass of 5.5 cm with present vascular flow and beta-hCG in regression, on 06/18 of 36.3mUI/mL. After the beta-hCG drop to 18mUI/mL (06/25/20) USG-guided uterine curettage was indicated (four weeks after MTX), performed on 06/27/20 at Hospital Amparo without intercurrences. One month after the procedure, a new USG was performed, with no signs of ectopic pregnancy and negative beta-hCG. Patient was discharged with resolution of the condition. She has just discovered a new pregnancy of 16 weeks and 4 days in obstetric USG on 22/11/22.

CASE 4

HVB patient, now 34 years old, G2P1CA with a positive pregnancy test, started with mild abdominal pain, without vaginal bleeding and sought medical attention on 04/14/2020, underwent beta-hCG with a value of 31,708.4 mIU/mL being, therefore, being requested to perform the first TVUS on 04/20/2020 which showed an anembryonic gestation, gestational sac measuring 18 x 6 x 15 mm with low insertion in the region of the isthmus compatible with 5 weeks. On 04/22 after having a new USG evaluation carried out by a specialist, she received the written medical report: Patient HVB is a carrier of ectopic pregnancy and, due to being of high uterine risk, she needs ultrasound investigation and intervention. On 04/30, an intragestational sac injection of methotrexate was performed on the cesarean section scar pregnancy. USG on 05/07 after intrasac injection of MTX with a mass of 4.2 cm in the anterior uterine segment with hyperflow and low vascular resistance. Beta-hCG on the same day was 34.336 mIU/mL. A follow-up of beta-hCG was carried out, which began to fall, being 783 on 06/08, 463 on 6/16 and 368 on 06/25. On 06/30 a new ultrasound was performed, still visualizing a hypervascularized mass of 5.5 cm in the cesarean section scar. A single dose of MTX 50 mg IM was prescribed. Day 07/07 beta-hCG of 251 and 07/21 of 49. On 07/30 the patient presented increased vaginal bleeding and was submitted to a new USG showing an amorphous mass of 5 cm compatible with ectopic cesarean scar pregnancy, without metabolic activity on doppler. The pregnant woman was hemodynamically stable, normal laboratory tests (complete blood count, coagulogram, renal function) with hemoglobin of 15.2 g/dL and surgical hysteroscopy was indicated due to ectopic pregnancy with uterine hemorrhage. In the procedure carried out on 08/01 at the hospital, the presence of placenta accreta was found in the uterine segment and pathology revealed the specimen containing blood clots and permeate necrotic chorionic villi without signs of malignancy (Figure 3).

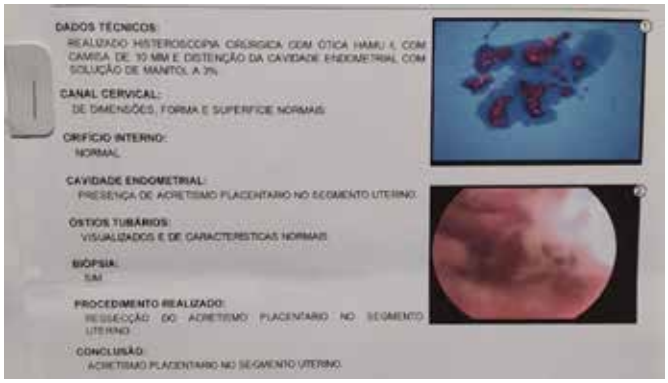

Figure 3. Surgical Hysteroscopy Image.

Eight months later, the patient presented a new pregnancy, performed by cesarean section at 37 weeks, without intercurrent pregnancy, interrupted due to initial labor.

DISCUSSION

Although endovaginal ultrasonography is already well established in the case of ectopic pregnancy, the differential diagnosis between ongoing miscarriage, cervical pregnancy and pregnancy in the cesarean scar is not easy and requires experience from the examiner. As for case 1, the initial diagnosis was a topical pregnancy of 6 weeks and 4 days and only in subsequent exams was the correct diagnosis suspected.

Early ultrasound findings suggestive of a woman with previous uterine scarring include: Anterior gestational sac and low insertion (ultrasound marker for CSEP only at early gestational ages below 7 weeks), if the gestational sac is below the imaginary line taken at longitudinal direction of the uterus, it is a CSEP or cervical pregnancy. When applied before 7 weeks, it has reliable statistical performance, having a sensitivity of 93% and specificity of 98.9%. Other findings that may be found are similar to the ultrasound diagnosis of placenta accreta, such as the presence of low anterior placenta or placenta previa, thin myometrium (thickness <= 3 mm), or absence of myometrium between the placenta and the bladder, irregular bladder line, increased vascularity at the interface between the bladder and the placenta. With the exception of the position of the gestational sac, the other findings become increasingly evident at more advanced gestational ages (after seven weeks, until the end of the third trimester) [5].

Ultrasonography is the standard test for diagnosing ectopic pregnancy in the cesarean scar and should be performed by a specialist and experienced physician.

Magnetic resonance imaging, due to its excellent tissue resolution, is capable of locating the implantation in the cesarean scar, measuring the thickness of the anterior uterine wall and accurately evaluating the vesicouterine pouch[7]. However, to date, there is no evidence to support its routine use for the diagnosis of CSEP. In selected cases where the ultrasound image is indeterminate or the images are suboptimal, MRI can be used as an additional assessment [6].

Among the therapeutic options are watchful waiting, medical or surgical treatment. The choice is made based on gestational age, serum beta-hCG level, myometrial integrity, hemodynamic status of the patient in addition to parity and desire for future pregnancy [8].

There are few studies that report success in expectant management and, when chosen, strict surveillance is required due to the risk of needing urgent intervention. It is not advisable in cases of embryo with cardiac activity due to high maternal morbidity and mortality [8].

Treatment with methotrexate alone is more effective when beta-hCG levels are less than 5000, and should be limited to two doses of 1mg/kg each. Some authors suggest the use of methotrexate always associated with another technique to increase its therapeutic efficacy [9] .

Ultrasound-guided intragestational methotrexate injection is a very effective treatment. In a prospective study including 18 patients with pregnancy in the cesarean scar, local injection of 25 mg MTX was successful in five out of seven cases (71%) and only 2 out of seven cases (20%) required emergency surgery to control hemorrhage. A slow resolution of the condition is expected with negative beta-hCG occurring within 40 days on average (range 21 to 140 days) [5].

After administration of methotrexate, patients should always be evaluated for possible side effects, which include leukopenia, liver or kidney dysfunction, stomatitis, nausea and hemorrhage [2]. In the cases described here, none of the patients had the side effects described.

When opting for intrauterine evacuation, the procedure must always be guided by USG due to the risk of uterine perforation and the patient must always be informed of the possibility of hysterectomy in case of massive hemorrhage [2]. The cases of MVA described in the literature are in pregnancies of less than eight weeks, mean diameter of up to 13 mm of the gestational sac, without bulging of the uterine scar and without cardiac activity [9].

It is likely that pregnancy in the cesarean scar shares a common histology with the spectrum of placenta accreta and the two conditions may represent a continuum of the same disease, with CSEP diagnosed in the first trimester and accretism, with the evolution of pregnancy [6].

In one of the cases described in our study, the patient underwent drug treatment and, in the follow-up period, presented hemorrhage, being submitted to surgical hysteroscopy, with a diagnosis of placenta accreta. There was no need for transfusion, the patient remained hemodynamically stable and was successfully treated with resection of ovular remnants by hysteroscopy after treatment.

Early diagnosis is essential to avoid serious complications such as bleeding and the need for urgent hysterectomy. In the cases described in this work, thanks to early diagnosis and ultrasound performed by an experienced professional, it was possible to treat all patients conservatively with preservation of fertility. One of these patients became pregnant again after the resolution of the condition, had a smooth and uneventful pregnancy, one is currently pregnant and starting prenatal care, and the other two had the ectopic pregnancy recently and are using contraception.

FINAL CONSIDERATIONS:

Ectopic pregnancy in a cesarean scar is a pathology that may be associated with serious complications with the risk of uterine rupture and massive hemorrhage requiring urgent hysterectomy, which may compromise the woman's reproductive future.

Early diagnosis is of fundamental importance in this pathology and is done through endovaginal ultrasonogra-

phy, obeying the ultrasonographic criteria and excluding differential diagnoses.

Conservative treatment is the appropriate treatment for patients who wish to preserve fertility and should be performed whenever possible.

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PERINEAL OUTCOMES IN VAGINAL DELIVERIES ACCOMPANIED IN A PUBLIC MATERNITY

THAYS BARBIERI POLONIATO[1], LUDMIRA FORTUNA SANTOS[3], IRUMUARA INTERAMINENSE ULIANA FILHO[4], RENATA SILVA LOPES[2], ANA VERA ALVES CARDOSO[3], LAURA ARAÚJO DE CARVALHO[5], WALDEMAR NAVES DO AMARAL[2]

ABSTRACT

About 85% of women who deliver vaginally suffer some type of perineal trauma. Spontaneous injuries may lead to the need for suture, increased blood loss, perineal pain in the postpartum period, and represent a risk factor for the emergence of pelvic floor dysfunctions. Perineal lesions are related to the assistance given during labor. The aim of this research was to describe the socioemographic and obstetric characteristics and the prevalence of perineal trauma in deliveries. This is a cross-sectional study, descriptive analytical and quantitative in approach, with secondary data collection from physical/electronic medical records between January and March 2022, to be conducted at the Hospital e Maternidade Dona Iris, a public hospital that is a reference in maternal and child health in the Midwest Region. The data will be entered into statistical software, Statistical Package for the Social Sciences (SPSS) version 22.0. Simple statistics with absolute and relative frequency will be performed. Data were collected after review and approval by the Research Ethics Committee of the Hospital e Maternidade Dona Iris, under number 5.610.634. The results found in this study allow us to conclude that perineal trauma must be treated with importance by assistance to parturient women, as they can result in negative outcomes for the woman in the physical, psychological, emotional and social aspects; with long-term consequences.

KEYWORDS: PERINEUM. INJURY. EPISIOTOMY. CHILDBIRTH CARE. WOMEN'S HEALTH

INTRODUCTION

In the perspective of a humanized care model and aiming to minimize maternal and neonatal risks, in Brazil, there is the Humanization of Childbirth Program (PHPN), the National Policy for Integral Attention to Women's Health (PNAISM) and the initiative Rede Cegonha, which was implemented with the purpose of guaranteeing access to health services, reception and resolution in the obstetric area[1].

On an international level, the World Health Organization (WHO) defends freedom of position and movement during labor, the encouragement of vertical positions during childbirth and the restrictive practice of episiotomy. Brazil is the country with the highest rates of maternal and perinatal morbidity and mortality, as well as cesarean sections in the world [2,3].

Of the women who perform vaginal delivery, a percentage of 85% suffer some type of perineal trauma. Such injuries can lead to increased blood loss, the need for suturing, postpartum perineal pain and a risk factor for the onset of pelvic floor disorders, such as urinary and fecal incontinence and pelvic organ prolapses[1].

Perineal trauma, as a result of vaginal delivery, is characterized as the loss of integrity of the perineum, which may involve lacerations of different degrees. It is associated with short- and long-term morbidities, such as perineal pain, dyspareunia, symptoms of depression, increased risk of puerperal infection and bleeding[4].

Among women who have already faced perineal trauma, 40% report pain in the first 2 postpartum weeks. In women with an intact perineum, pain and discomfort disappear within the first 10 days after childbirth, while women who have experienced perineal trauma report pain during the 3 months following childbirth [5].

Lacerations are classified according to depth degrees according to the affected tissue degrees, the most serious being those that affect the anal sphincter. There are many factors reported in the literature associated with the increased incidence of perineal trauma, including primiparity, instrumental delivery, fetal macrosomia, advanced maternal age and controllable factors [4].

Among the controllable factors are unconventional birth positions (standing, semi-sitting, sideways, on all fours, squatting, birthing stool, kneeling, bathtub delivery), which have been associated with an increase in the intact perineum when compared to to the lithotomy position, conventionally used because it allows viewing the perineum and facilitates some maneuvers [4,6].

According to the survey, "Born in Brazil", carried out by the Oswaldo Cruz Foundation (Fiocruz), the lithotomy po-

1 - Hospital e Maternidade Dona Íris
2 - UFG GO
3 - HMDI
4 - Unirv Campus - Ap. de Goiânia
5 - PUC GO

ADDRESS
PATRÍCIA GONÇALVES EVANGELISTA
Alameda Emílio Póvoa, 165 - Vila Redenção,
Goiânia - GO, 74845-250
E-mail centrodeestudoshdmi@gmail.com

sition is still the most used in the country (91.7%) and the episiotomy rate is close to 53.5%. It should be noted that the World Health Organization (WHO) refers to an acceptable episiotomy rate of 10%. Some traditional and routine practices are used and favor the occurrence of perineal trauma, namely, the induction of labor with synthetic oxytocin, episiotomy and the woman remaining in the lithotomy position [7,2].

The adoption of horizontal positions is a harmful practice during vaginal delivery and should be eliminated from obstetric practice, and there should be encouragement for vertical positions, whose obstetric outcomes are more positive [2,3] .

The lithotomy position is a risk factor for 1st and 2nd degree lacerations and 41.5% of deliveries in this position present an episiotomy, whereas vertical positions are protective, reducing the occurrence of episiotomy to 2.3% 9. Studies indicate a high rate of episiotomy in deliveries in lithotomy positions (38%), in lateral positions (6.7%). Supine positions are related to 3rd and 4th degree lacerations and higher rates of episiotomy [8,10,11].

The main justification to support the adoption of vertical positions in childbirth is the gravitational action, which contributes to the descent of the fetus through the vaginal canal, in addition to modifying the angle of the maternal pelvis, horizontal positions make fetal descent difficult in the expulsive period [12,13].

In this sense, the objective of this research was to describe the socioemographic and obstetric characteristics and the prevalence of perineal trauma in deliveries at the Hospital e Maternidade Dona Iris, a reference in maternal and child health in the Midwest Region.

METHODOLOGY

Study with cross-sectional design, analytical descriptive and quantitative approach. The cross-sectional study is an epidemiological research strategy that analyzes factor and effect in a given place and time, determining incidences and prevalence of a phenomenon [14].

The research was carried out at the Hospital e Maternidade Dona Íris, a public municipal hospital located in Goiânia, Goiás, a reference in maternal and child health in the Midwest Region, comprising 17 municipalities and having a population of 2,149,204 inhabitants. The Hospital e Maternidade Dona Iris has the capacity to carry out 3,600 births per year, an average of 300 per month, and represents the reference maternity hospital in the municipality and metropolitan region, offering gynecology, obstetrics, speech therapy, psychologists, social service and others [15] . Secondary data collection was carried out at the aforementioned health unit between the months of January and March 2022. The research included medical records of pregnant women over 14 years of age, at normal risk, admitted in labor, with delivery assisted by a doctor and/or obstetric nurse. Inconclusive medical records and patients who were admitted during the expulsive period were excluded.

For this study, the following variables were considered in the analysis process: age (in years); years of education, marital status (lives with a partner versus lives without a partner), perineal outcome (1st, 2nd, 3rd or 4th degree laceration), episiotomy (yes versus no), perineal suture (yes versus no), used instruments (vacuum versus forceps), use of inducers (oxytocin), delivery positions (vertical versus horizontal), fetal weight and APGAR score. Regarding obstetric clinical aspects, the variables will be analyzed: had prenatal care (yes or no) , number of prenatal consultations, gestational age (in weeks) and high-risk pregnancy (yes versus no). Data were processed using the Statistical Package for Social Sciences (SPSS) software, version 22.0, for analysis of absolute and relative frequency.

Por se tratar de coleta secundária de dados, houve dispensa da utilização do Termo de Consentimento Livre e Esclarecido (TCLE) por se tratar de uma pesquisa descritiva, com coleta de dados secundária. Esta pesquisa foi aprovada pelo Comitê de Ética em Pesquisa do Hospital e Maternidade Dona Iris, sob o número 5.610.634. e respeitou os princípios éticos em pesquisa envolvendo seres humanos conforme a Resolução 466/2012 [16].

As this is a secondary data collection, there was no need to use the Free and Informed Consent Form (TCLE) as it is a descriptive research, with secondary data collection. This research was approved by the Research Ethics Committee of Hospital e Maternidade Dona Iris, under number 5,610,634. and respected the ethical principles in research involving human beings according to Resolution 466/2012 [16].

RESULTS

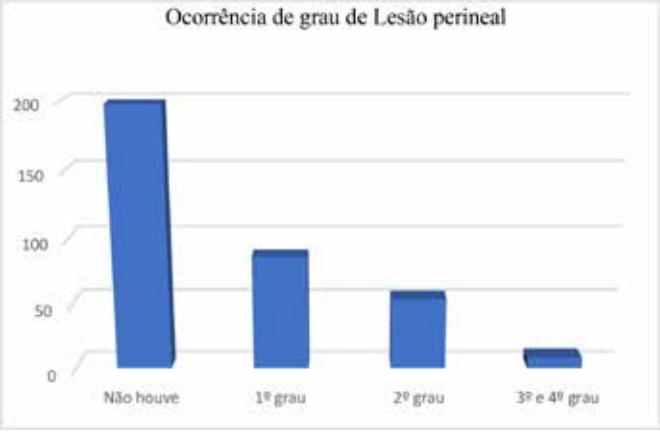
A total of 347 women who underwent vaginal delivery from January to March 2022 were analyzed. The prevalence of perineal injury found in this study was 46%, representing 159 women. Of the total number of pregnant women analyzed, 302 (87%) were aged between 19 and 39 years, most of whom were multiparous, 200 (58%), and had a full-term gestational age greater than 37 weeks at delivery, corresponding to 222 (64%).

Table 1 presents the obstetric characterization of women undergoing vaginal delivery.

Variables	N	%
Age, years		
14 - 18	38	11
19 - 29	230	66
30 - 39	73	21
40 - 45	6	2
Number of consultations		
≤ 6	178	51
> 7	169	49
Parity		
Primiparous	146	42
Multiparous	161	46
Grand multipara	40	12
Gestational age, weeks		
< 34	13	4
≥ 34 – 36 weeks 6 days	28	8
≥ 37 – 39 weeks 6 days	222	64
≥ 40	84	24
Accompanied		
Yes	345	99
No	2	1

Table 1. Obstetric characterization of women undergoing vaginal delivery, Goiânia, Brazil, 2022 (n= 347)

Graphs 1 show the occurrence of perineal injury in degrees in women undergoing vaginal delivery, respectively. In this sample, 188 (54%) pregnant women had an intact perineum, followed by 159 (46%) women with perineal injury, namely, first degree in 86 (25%), second degree in 54 (16%) and third and fourth degree in 8 (2%). The episiotomy rate in this study was 5%. Regarding the position adopted at the time of delivery, 254 (73%) assumed a semi-sitting position, 46 (13%) right or left lateral decubitus, 28 (8%) adopted squatting and 19 (6%) preferred a position on all fours or gaskin.



Graph 1. Occurrence of perineal laceration in vaginal delivery in degrees, Goiânia, Brazil, 2022 (n= 347).

Table 2 shows the occurrence of lacerations in vaginal delivery according to the position adopted at the time of delivery.

Delivery position	Perineal lesion	
	N	%
Semi-sitting		
Yes	120	35
No	134	40
Squatting		
Yes	13	3
No	15	4
Lateral		
Yes	21	6
No	25	7
Gaskin		
Yes	5	1
No	14	4

Table 2. Occurrence of perineal laceration in vaginal delivery versus position of vaginal delivery, Goiânia, Brazil, 2022 (n= 347).

Tables 3 and 4 show the occurrence of lacerations in vaginal delivery according to fetal weight and use of intrapartum oxytocin, respectively.

Fetal weight (grams)	Perineal lesion	
	N	%
≤ 2500		
Yes	13	45
No	16	55
2500 to 4000		
Yes	146	47
No	168	54
≥ 4000		
Yes	3	75
No	1	25

Table 3. Occurrence of perineal laceration in vaginal delivery versus fetal weight, Goiânia, Brazil, 2022 (n= 347).

Intrapartum oxytocin	Perineal laceration	
	N	%
Induction with oxytocin		
Yes	76	58
No	56	42
No oxytocin		
Yes	83	39
No	132	61

Table 4. Occurrence of perineal laceration in vaginal delivery versus the use of intrapartum oxytocin, Goiânia, Brazil, 2022 (n= 347).

DISCUSSION

This study revealed a prevalence of some type of perineal lesion in 159 (46%) women who underwent vaginal delivery, predominantly in the 19-39 age group, which represents 87% of the studied population; a small portion (11%) were 18 years old or younger and had a full-term pregnancy, longer than 37 weeks.

With regard to the social and obstetric profile of the analyzed women, the cross-sectional and quantitative study by Camargo et al 17 with 104 women in a public hospital in Setúbal - Portugal, pointed to a prevalence of the age group above 30 years and primiparous pregnant women. Rodrigues et al, [9] pointed out a predominance of multiparous women, aged between 20-34 years; resembling, therefore, the findings in the results of this research, in which a higher percentage of multiparous women prevailed; that is, women who have become pregnant two or more times. In addition, there was a prevalence of multiparous pregnant women admitted at term, that is, with gestational age greater than 37 weeks, with adequate prenatal care, as recommended by the Ministry of Health, with more than 7 consultations in 49% of pregnant women.

Prenatal care enables better perinatal results, thus contributing to women's empowerment and information about the process of pregnancy and childbirth. A well-conducted prenatal care can impact better maternal and neonatal outcomes, such as the occurrence of perineal injury, given that the woman has the opportunity to prepare for childbirth through exercises that strengthen her pelvic floor.

In this study, a prevalence of 46% of perineal injuries was observed, corroborating the cross-sectional study by Souza et al [18] carried out with primiparous women from a maternity hospital in Fortaleza-CE, in which 159 (70.4%) women suffered perineal trauma during the work of childbirth.

Regarding the positions adopted during childbirth, the highest frequency of injuries was in pregnant women who adopted the semi-sitting position, in which the patient remains with the trunk elevated at 45º degrees, legs apart and flexed and the back on a rigid surface. This data is similar to the literature by Rodrigues et al 9 who analyzed records of vaginal deliveries between the years 2017-2018, in a Normal Birth Center in the city of São Paulo and showed a higher percentage of first-degree perineal laceration in women who assumed a semi-sitting or lithotomy position, linked to a higher occurrence of episiotomy in these cases. This association is due to the fact that the horizontal position disfavors the amplitude of opening of the pelvis, which increases the chance of lacerations, in addition to decreasing the angle of descent of the fetus during the expulsion phase5. About the practice of episiotomy, in this study the rate found was 5%.

In the present study, the non-occurrence of perineal injury degree was predominant in most parturients (198), followed by 86 women with first-degree lacerations. Result similar to that found in Lopes' research; Leister; Riesco 19, in which 415 women were analyzed, first-degree injuries prevailed in 257 (61.9%) women. However, the intact perineum was present in only 49 (11.8%) women. Based on these findings, it is understood that the assistance offered at the study site by the obstetric team corroborates good childbirth care practices, which encourage the adoption of vertical positions during childbirth.

Studies on perineal injury in vaginal deliveries have associated its occurrence with the use of intrapartum synthetic oxytocin [20,21]. The deliveries induced by synthetic oxytocin had a higher number of perineal lacerations in the results described here. According to Zukoff et al, 2019, who analyzed the records of deliveries assisted by obstetric nurses in 2015, in a public maternity hospital in the city of Rio de Janeiro; the use of intrapartum oxytocin favors a serious traumatic evolution in the perineum, since the drug can cause uterine hyperstimulation, favoring a rapid expulsion of the fetus, thus increasing the risk of serious injuries.

A study on obstetric care in Brazil revealed that the use of oxytocin is higher in women with low education and public service users and deserves attention [7]. Oxytocin is a drug used in obstetric practice to correct uterine activity when there is a failure in the work of obstetrics delivery. However, it should not be used routinely and indiscriminately [22]. Therefore, it is suggested to use it in a restricted and individualized way.

When studying the neonatal variables, in this study, a greater number of lesions was observed in fetuses weighing more than 2,500 grams. The literature is still convergent on this relationship. A cross-sectional and retrospective study carried out in a maternity hospital in the city of Santa Maria-RS, based on the analysis of records in electronic medical records of deliveries that occurred in 2018, did not observe an association between fetal weight and perineal injuries; although this relationship is consolidated in several literatures [22].

Other events such as shoulder dystocia and directed pulling are also cited in the literature as risk factors for perineal lacerations. However, the application of techniques

such as "hands off", massage and use of warm compresses in the perineal region contribute to perineal integrity, reducing the chances of third and fourth degree lacerations, which are considered more serious [21] .

Among the limitations of this study is the fact that it was retrospective with data from medical records, which could lead to bias, as data collection depends on the quality of the notes. Furthermore, the possibility of bias in the responses of pregnant women when filling out the medical records is considered, as well as the presence of variables without notes.

FINAL CONSIDERATIONS

In general, the results found in this study allow us to conclude that perineal trauma must be treated with importance by assistance to the parturient woman, as it can result in negative outcomes for the woman in the physical, psychological, emotional and social aspects; with long-term consequences.

It is crucial that the approach and management of health professionals in assisting women in labor be based on holistic and humanized care, placing the woman as the main driver and protagonist of her delivery, stimulating autonomy and self-confidence throughout the process. These actions can be strengthened during prenatal care through health education and access to information. Care centered on these pillars can favor greater well-being and comfort for these women, making their experience of vaginal delivery satisfactory and non-traumatic.

The results of this study can serve as a subsidy to promote improvements and adaptations in maternal care; in order to stimulate health professionals to encourage women about their rights to choose, being aware and informed of all risks and benefits. This study may also be relevant for the implementation of actions and procedures aimed at reducing morbidity statistics and negative outcomes during childbirth care.

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CASE REPORT OF A PEDIATRIC JOINT EFFORT OF BLENDED CARE IN THE CITY OF SILVÂNIA-GOIÁS

GISELLE PULICE BARROS, MARCUS VINICIUS LOBO LOPES FILHO

ABSTRACT

This is a case report of a joint effort in pediatrics, with blended care, in the city of Silvânia, located in the State of Goiás, to demonstrate the method of blended consultations created by the medical startup medicou.net to the population.

KEYWORDS: SILVANIA. BLENDED MEDICINE. GOIÁS. TELEMEDICINE. SUS.

INTRODUCTION

Considering the difficulty in hiring doctors and the high cost of transporting patients to distant centers in our State, it is well known that many municipalities in Goiás have medical specialists in the recurrent care of their population.

For this reason, we carried out, through the startup medicou.net, a task force in action with the ESF-1 of Silvânia, in the area of pediatrics, on July 5, 2022.

METHODS

On July 5, 2022, in the afternoon, medical care in blended pediatrics began.

We used a room at the ESF-1 in the city to carry out the screening and physical examination, using blended medicine technology researched and implemented by the startup medicou.net.

Photographs of the physical examination

Initially, the patient entered the triage and was received by the team nurse. The physical examination included: measurement of weight, height, blood pressure, oximetry, otoscopy, oroscopy, rhinoscopy, cardiac auscultation, pulmonary auscultation and inspection of the patient's skin.

The data were immediately sent by software through technology and a resident doctor of pediatrics, located in the capital Goiânia, assisted the patients after analyzing the physical examination sent.

At the end of the consultation, a digital prescription was created, if necessary, and sent to the health center by e-mail, which was printed and delivered to the patient.

RESULTS

Eight children between 12 days old and 8 years old were assisted in this task force, of which 42.9% were routine consultations, 35.7% pediatric emergency consultations and 21.4% childcare consultations.

Universidade Evangélica de Goiás

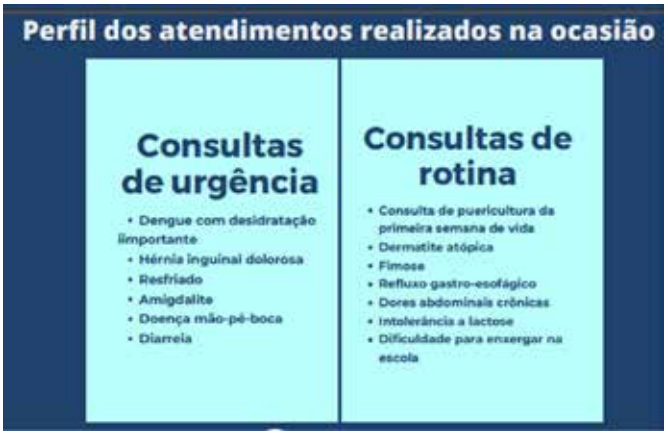
ADDRESS

GISELLE PULICE DE BARROS

Departamento de pediatria, Universidade UniEvangélica, Anápolis, Goiás, Brasil.

The following diagnoses were among the reasons for urgent consultation: Dengue with dehydration, Painful inguinal hernia, Cold, Tonsillitis, Hand-foot-mouth disease and diarrhea.

In routine consultations, the following diagnoses were made: atopic dermatitis, phimosis, gastroesophageal reflux, chronic abdominal pain, lactose intolerance and difficulty to see at school.



Regarding the feedback from patients and caregivers, there were 100% positive written messages. All eight families had never seen telemedicine or blended medicine before, and said they loved the experience.

DISCUSSION

With the excellent use of the task force in the city, it becomes evident the resolution in routine care and also in emergency consultations with potential severity, with diagnosis and treatment of the patients treated.

It is also important to understand the nuances of the cost of blended medicine compared to the transfer of patients to large centers or the specialist professional going to the city, which are apparently lower.

A very surprising result was popular acceptance. All families had never been assisted by hybrid medicine or even by traditional telemedicine. Parents reported quality of care, from screening, physical examination to medical consultation.

CONCLUSION

This work highlights the successful performance of blended medicine in Silvânia, which can be extended to other municipalities in the State as a strong ally in improving the supply of specialist doctors in these cities.

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CORONARY ANEURYSM: CASE REPORT

PAULO HENRIQUE DE OLIVEIRA, MARCO AURÉLIO DOS SANTOS CORDEIRO, PAULO HENRIQUE RODRIGUES

ABSTRACT

Introduction: True arterial aneurysms present as focal dilations greater than 1.5 times the normal diameter of the vessel due to elastin and collagen degeneration in the media layer of the arterial wall. The incidence of this condition is low in the general population, ranging from 0.2 to 5%. Objective: To present a case of an elderly female patient diagnosed with coronary aneurysm. Methodology: This is a case report, with retrospective data collection, from the medical record of the selected patient. A patient with a diagnosis of coronary aneurysm was included. Sociodemographic and clinical information, examinations performed, the chosen therapy and the outcome were collected. The search strategy for articles for the bibliographic review was carried out with the help of the Virtual Health Library (VHL), LILACS, PubMed and Scopus. The study followed the ethical guidelines for the development of research with human beings, in particular what is recommended in resolution 466/2012 of the National Health Council. Conclusion: The report of the present case contributed to highlight the clinical presentation of a coronary aneurysm in an elderly female patient, in addition to demonstrating the possible risk factors associated with this condition, as well as the diagnostic method and standard treatment.

KEYWORDS: ANEURYSM. CORONARY. ECTASIA. RISK FACTOR. HOSPITAL TREATMENT.

INTRODUCTION

Arterial aneurysms appear as focal dilations greater than 1.5 times the normal diameter of the vessel, due to degeneration of elastin and collagen in the middle layer of the arterial wall. The incidence of this condition is low in the general population, varying between 0.2 and 5% [18,2,4].

Aneurysms can be classified as saccular or fusiform. Sacular refers to a focal asymmetric bulge of the arterial wall with the remainder of the vessel circumference unaffected. Fusiform aneurysms are completely circumferential enlargements of the vessel wall. Aneurysms involving unusual sites, such as the iliac, femoral, popliteal, superior mesenteric and pulmonary arteries, rarely occur. [21]

In most cases, patients with coronary artery aneurysms have an asymptomatic clinical presentation, and the diagnosis is made based on an incidental finding during imaging tests. In symptomatic cases, this condition may present as acute coronary syndromes or assume other conditions, such as aneurysms of the ascending aorta or pulmonary trunk, pericardial cysts, cardiac tumors and thymomas. [2,23,4]

Coronary artery ectasia (CAE) is a rare phenotype of cardiovascular disease that can promote thrombosis and inflammatory responses leading to myocardial infarction due to abnormal dilation of blood vessels and disturbances of coronary blood flow. [7,12] Acute myocardial infarction is a specific type of coronary artery disease caused by the rupture of coronary atherosclerotic plaques [7].

CAE is a rare manifestation of coronary disease. The most common cause of CAE is atherosclerosis, localized areas of calcification and fibrosis, and the presence of large cholesterol crystals, which reduce the elasticity of the blood vessel wall and reduce its tolerance to intraluminal blood pressure, which leads to vessel expansion. and subsequent formation of aneurysms. [7,12,20]

The pathogenesis of coronary aneurysm is still not well understood, however, it is believed that in addition to genetic susceptibility and the association with atherosclerotic disease, there are other associated etiologies such as Kawasaki, Marfan, post-infectious and Iatrogenic after intracoronary manipulation. There is evidence in the literature that also demonstrates an association of this condition with microvascular dysfunction, causing myocardial ischemia even without significant stenosis. Thus, it is observed that coronary aneurysm may have acute coronary syndrome as its first manifestation, which may also be a differentiated diagnosis of myocardial infarction with non-obstructive coronary arteries. [23,6,29]

Coronary angiography remains the best method for identifying coronary artery aneurysms. This provides information about the location, size and shape of the aneurysm, but only visualizes the vessel lumen, thus contributing to underestimating its real size. Intravascular ultrasound corrects these limitations, providing transmural images and information about wall structure and luminal composition. Computed tomography coronary angiography provides rapid information about the location, shape, size and wall

Universidade Evangélica de Goiás

ADDRESS
PAULO HENRIQUE DE OLIVEIRA
Rua av 7 quadra 13 lote 16
Residencial Anaville, Anápolis - GO
Email: pholiveira.med@gmail.com

composition of coronary artery aneurysms, but this should be used more for patient follow-up. [22,13]

There is still no consensus for the medical treatment of this disease. Based on their mechanistic similarity with Loey's-Deitz syndrome, some studies have suggested beta-blockers and angiotensin receptor blockers for preventing arterial events. [21]

For the treatment of events related to atherosclerosis, smoking cessation, statin therapy, hypertension control and surgical correction are indicated. In the Aneurysm-Osteoarthritis syndrome, arthritic pain control and early elective surgical repair of the aneurysm are indicated. [21]

For the treatment of Kawasaki disease, aspirin, IV immunoglobulins and surgical repair are indicated. For the treatment of polyarteritis nodosa, steroids, drugs that modify the immune system, such as azathioprine or cyclophosphamide are indicated, and for the treatment of infectious aneurysms, antibiotics and emergency surgical repair are indicated. [21]

Given the above, this study will present a case of an elderly female patient diagnosed with coronary aneurysm.

METHODOLOGY

This is a case report, with retrospective data collection, from the medical record of the selected patient. A patient with a diagnosis of coronary aneurysm was included. Sociodemographic and clinical information, examinations performed, the chosen therapy and the outcome were collected. The search strategy for articles for the bibliographic review was carried out with the help of the Virtual Health Library, PubMed and Scopus. [21]

The study followed the ethical guidelines for the development of research with human beings, in particular what is recommended in resolution 466/2012 of the National Health Council.

CASE REPORT

Female patient, 66 years old, was admitted to the cardiology department at the Hospital do Hospital Evangélico Goiano, in May 2022, with typical severe chest pain, lasting more than 12 hours (late delta T), radiating to the cervical region and left upper limb.

The patient reports that the pain in question was triggered by exertion, also being related to associated nausea and vomiting. The past history identified arterial hypertension, hypothyroidism, former smoking and coronary artery disease (Acute Myocardial Infarction in 2012). She was still using atenolol, simvastatin, amiodarone 100mg, losartan and acetylsalicylic acid.

On physical examination, the patient had chest pain, tachypnea (RR 28 bpm), hypotensive (BP: 80/60 mmHg), crackling rales in the lower thirds of both hemithoraxes, regular heart rhythm, without the presence of S3, hypophonetic sounds and abdomen normotensive with bowel sounds present.

A chest pain protocol of the hospital unit in question was carried out, in which the electrocardiogram showed elevation of the ST segment, in the territory of the inferior wall. She underwent cardiac catheterization, which showed: dominant right coronary artery, with diffuse ectasia (with an aneurysm as the diagnostic hypothesis), followed by occlusion in the middle third with a high thrombus load. The distal bed is filled with heterocollaterals (diffusely compromised distal bed) (Figure 1). Left coronary trunk, large caliber and without obstruction. Anterior Descending Artery with ectasia in the proximal third followed by aneurysmal dilatation in the middle 1/3 (Figure 1). Diagonal artery without obstruction. The circumflex artery did not show obstructive lesions.

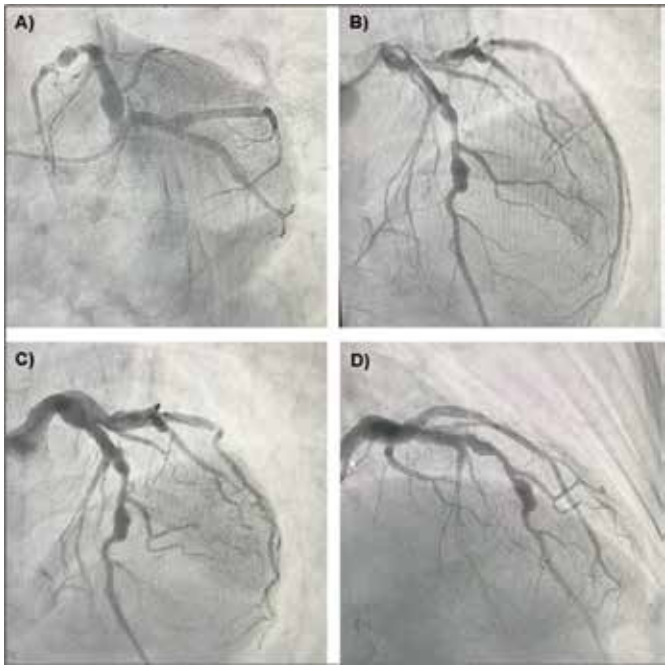

Figure 1: Cardiac catheterization

Regarding the left ventricular evaluation, normal volume, inferobasal and inferior akinesia, without left ventricular gradient, were demonstrated. The mitral valve does not allow reflux into the left atrium. No angioplasty performed. Optimized treatments for Acute Coronary Syndrome were prescribed, with consequent rheumatological/autoimmune screening for the alterations evidenced in the catheterization in question.

The patient evolved in the institution's Coronary Intensive Care Unit (CCU), in regular general condition, lucid and oriented, hemodynamically stable, without the need for vasoactive drugs/amines, eupneic on room air. Febrile, without the need for antibiotic therapy.

DISCUSSION

Aneurysms typically occur in the aorta and are rarely found in systemic arteries. For the aorta in men or in women, femoral and popliteal arteries, the diameters that require surgical intervention are 5.5, 5.0, 2.5 and 2.0 cm, respectively. [21,9,17]

Coronary artery ectasia (CAE) is a relatively rare condition, especially when it involves the left main coronary artery. Furthermore, it is even more unusual that this pathological process involves multiple coronary arteries. [3,12,7,25]

The right coronary artery is the most commonly affected in up to 85% of aneurysm cases, followed by the left circumflex and left anterior descending coronary artery (with up to 32% of aneurysm occurrences). Involvement of the left main coronary artery is extremely rare (0.1% of the population). The incidence of CAE can range from 0.3% to 5.3% (mean 1.65%). Men are more affected than women (2.2% vs. 0.5%). Coronary artery ectasia can be classified as type I (diffuse ectasia of two or more vessels); type II (diffuse ectasia in one vessel and localized disease in another vessel); type II (diffuse ectasia in only one vessel); and type IV (Localized or segmental involvement). [22,13,12]

In the classification of coronary artery dilation based on gross shape or structure, the saccular has the transverse diameter greater than the longitudinal dimension and the fusiform the longitudinal dimension is greater than the transverse diameter. [22,13,12]

In the classification of coronary artery dilation based on the composition of the vessel wall, in true aneurysm the vessel wall is composed of three layers: adventitia, media and intima, while in pseudoaneurysm the vessel wall is composed of one or two layers. Based on size, giant aneurysms (adults) are between > 20-150 mm in diameter and giant aneurysms (children) are greater than 8 mm in diameter. [22,13,12]

The etiology of coronary artery aneurysm varies depending on age, comorbidities and even geographic area. The etiology usually determines the presentation and treatment. [3,13,21]

CAE is often seen in association with atherosclerotic disease secondary to smoking, hyperlipidemia, and uncontrolled hypertension, which comprises nearly half of reported cases. The remaining cases of CAE are secondary to connective tissue sequelae or vasculitic coronary disorders (Ehlers-Danlos syndrome, scleroderma, neutrophil cytoplasmic antibody-related vasculitis, syphilitic aortitis, and Kawasaki disease). In addition, patients with CAE may have worse outcomes than the general population when they have signs and symptoms consistent with acute coronary syndromes. [13,7,12,21,9]

Atherosclerosis accounts for half of CAEs in the Western world, followed by congenital (17%) and infectious (10%) aneurysms. Kawasaki disease is the dominant cause of CAE in Japan. Inflammatory disorders and connective tissue diseases are usually associated with ectasias and are more frequent in younger patients. [13,7,12,21,9]

Iatrogenic causes include trauma resulting from balloon inflation pressure, intervention in acute myocardial infarction, use of non-steroidal anti-inflammatory drugs, steroids and anti-inflammatory colchicine, which can cause inadequate healing. Cocaine can cause severe hypertension and vasoconstriction, damaging the endothelium and promoting the formation of CAE. [22,13]

Thus, it is observed that the main risk factors for the development of thoracic aortic aneurysms are hypertension, smoking and chronic obstructive pulmonary disease (COPD). Nevertheless, aortic complications are influenced by these risk factors, as in the case of hypertension it has a strong association with acute aortic dissection, in addition, advanced age, history of smoking, hypertension and severe atherosclerosis contribute to dilations of the ascending aorta, age being the most important predictor of dilation. [19,5,15,14]

In the past history of the patient who had the case reported, it was identified that she had arterial hypertension, hypothyroidism, coronary artery disease (Acute Myocardial Infarction in 2012) and was a former smoker. In the literature, it is observed that coronary artery ectasia is often associated with atherosclerotic disease secondary to smoking, hyperlipidemia and uncontrolled hypertension, which comprises almost 50% of reported cases. [14,12,21,17]

CAE can be diagnosed by non-invasive and invasive techniques such as echocardiography, computed tomography (CT), magnetic resonance imaging (MRI) and coronary angiography. Coronary angiography is the gold standard for providing information about size, shape and location and is also useful for planning the surgical resection strategy. The natural history and prognosis remain unclear. However, this is invasive with associated risks, in addition to being expensive and the actual size of coronary aneurysms can be underestimated if they contain a substantial amount of thrombus.

Among the non-invasive modalities, coronary CT is an alternative to invasive coronary angiography that can be suggested as the technique of choice for the follow-up of patients with CAE due to improvements in terms of radiation dose with current protocols. However, this modality may have limitations in demonstrating clots or thrombi within the vessel, in delineating the distal part of the coronary arteries, and in simulating a large coronary aneurysm as a non-homogeneous mass because of the turbulence of the blood within it. [19,22]

Coronary magnetic resonance angiography is another non-invasive technique, it also avoids the large dose of radiation associated with coronary CT. However, this modality has its limitations; is not available in all medical centers, has inferior spatial resolution compared to coronary CT angiography, and does not show the characteristic linear

peripheral calcifications of CAE, which are essential for correct diagnosis. [19,22]

Intravascular ultrasound has become the new "gold standard" technique for producing transluminal images of the coronary arteries, including information on lumen composition and arterial wall structure. This method is very useful to differentiate true from false aneurysms caused by plaque rupture. [19,22]

No distinctive clinical characteristic of CAE has yet been shown in the literature. However, chest pain, suggestive of stable angina, is the most frequent presentation in patients with this condition (as was also observed in the patient who had the case reported here). In addition, patients with this condition may experience ST-segment elevation myocardial infarction, non-ST-segment elevation myocardial infarction, sudden cardiac death, or complications such as thrombus formation, embolization, fistula formation, rupture, hemopericardium, tamponade, compression of surrounding structures or congestive heart failure. [22]

Overall, the management of CAE still represents a significant challenge due to the paucity of evidence supporting a specific treatment strategy. The treatment of CAE remains a difficult clinical issue and the decision on therapy must be individualized, taking into account the anatomical and clinical risk factors of each patient. [12]

Nevertheless, any symptomatic or complicated aneurysm should be treated surgically, regardless of size. Medical therapy for all arterial aneurysms strongly depends on accurate diagnosis and etiological classification. [21]

Surgical management is mandatory in symptomatic patients with obstructive coronary artery disease or evidence of embolization leading to myocardial ischemia and in patients with coronary aneurysm at risk of rupture. Several surgical strategies have already been described in the literature, including resection, aneurysm ligation, marsupialization with interposition graft, and coronary artery bypass graft surgery. [19,22,13,12,21]

In symptomatic patients unsuitable for percutaneous coronary intervention, surgical excision or CAE ligation combined with bypass grafting of the affected coronary arteries is the option of choice. Nevertheless, the surgical approach is considered safer and more reliable for repairing an CAE/pseudoaneurysm. Percutaneous therapy includes stent placement and/or coiling. [19,22,13,12,21]

Indications for surgical treatment of CAE in general are:

- Severe coronary artery disease;
- CAE near bifurcation of large branches;
- Evidence of embolism from the aneurysm to the distal coronary bed resulting in myocardial ischemia;
- Progressive increase of an CAE documented by serial angiographic measurements;
- Complications such as fistula formation;
- Compression of the heart chambers;
- Giant CAE (dilation exceeding the diameter of the reference vessel by > four times).

CAE can complicate about 4% of coronary interventions. The suggested pathogenesis of stent-related aneurysm formation is multifactorial. In the literature, it was observed in a six-year follow-up study that the post-treatment mortality rate can reach up to 4.3% of cases. [25]

CONSIDERAÇÕES FINAIS

Dominant right coronary artery with diffuse ectasia is an uncommon condition, but its risk factors associated with the development of thoracic aortic aneurysms include hypertension, smoking and chronic obstructive pulmonary disease. Furthermore, aortic complications are influenced by these risk factors. Hypertension and advanced age are the risk factors that contribute to a greater number of complications in this condition.

In our institution, the patient was diagnosed through cardiac catheterization, following the institutional protocol; however, the literature has recommended intravascular ultrasound as a diagnostic method because it produces information about the composition of the lumen and the structure of the arterial wall, in addition to being invasive.

In asymptomatic patients with aneurysms and those approaching the threshold for surgical intervention, imaging should be performed every six months until the surgical threshold is reached or the dimensions remain stable. However, regardless of the aortic dimensions, symptomatic patients should be referred for surgery.

Appropriate surgical management is still not well defined in the literature, in the patient who had the case reported, optimized treatments for Acute Coronary Syndrome were instituted, with consequent rheumatological/autoimmune screening for the alterations evidenced in the catheterization in question. However, in the literature, several surgical strategies have been indicated, including resection, aneurysm ligation, marsupialization with interposition graft and coronary artery bypass graft surgery, however, medical therapy for all arterial aneurysms strongly depends on the accurate diagnosis and etiological classification, in addition, of course, to the protocols recommended by each institution.

And finally, the patient had a good evolution, remaining hospitalized in the Coronary Intensive Unit, without the need to use vasoactive drugs/amines. What is observed in the literature is that there is a low rate of complications from coronary artery ectasia and there is also a low post-treatment mortality rate, which can reach up to 4.3% of cases, which is why regular follow-up after treatment is important after hospital discharge.

Thus, the report of the present case contributed to highlight the clinical presentation of a coronary aneurysm in an elderly female patient, in addition to demonstrating the possible risk factors associated with this condition, as well as the proposed diagnostic method and treatment.

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MULTIFOCAL, MULTICENTRIC AND BILATERAL BREAST CANCER

HAILA CRISTINA DO RÊGO SILVA[1], DANIELA DOS SANTOS ANJOS[1], ISABELLA VICTÓRIA SILVA PEREIRA[1], ANDRÉ MAROCCOLO DE SOUSA[1], IZADORA CAIADO OLIVEIRA[1], IZABEL JAKELINE MORAIS LIMA MOREIRA[2], SAMIR ANTÔNIO MADI FILHO[2], JOÃO BOSCO MACHADO DA SILVEIRA[3], JUAREZ ANTÔNIO DE SOUSA[1]

ABSTRACT

The following work aims to clarify the differences between multifocal, multicentric and bilateral breast cancer, as well as to elucidate the risk factors, diagnostic methods and better treatments for this condition that affects women worldwide. Results: The literature shows that in the diagnosis of multiple tumors, whether multifocal or multicentric, the use of mammography in conjunction with ultrasonography and magnetic resonance has almost 100% accuracy. Regarding treatment, conservative mastectomies and breast reconstructions with locoregional flaps or implants are indicated. With regard to bilateral breast cancer, the diagnosis is initially made during palpation and then by imaging tests. Regarding treatment, breast-conserving surgery associated with chemotherapy, radiotherapy and hormone therapy can currently be performed without harm to patients when compared to the classic treatment of bilateral mastectomy. Conclusion: The evolution of science and imaging diagnostic techniques allow, nowadays, more accurate diagnoses and better treatments that guarantee a more adequate quality of life for patients with breast cancer.

KEYWORDS: BREAST CANCER, MULTIFOCAL, MULTICENTRIC, BILATERAL.

INTRODUCTION

Technological advances in breast radiology and the introduction of magnetic resonance imaging in therapeutic planning have increased the detection of previously undetected multicentric and multifocal tumors. Multifocality is defined as the presence of two or more tumor foci, synchronous, in the same quadrant, and when in different quadrants, in the same breast, it is called multicentricity. The incidence of these tumors varies between 13% and 70% in several studies. The AJCC (American Joint Committee on Cancer) and the UICC (International Union Against Cancer) recommend that multicentric and multifocal tumors be staged according to the diameter of the largest tumor[1].

Synchronous bilateral breast carcinoma is defined as the simultaneous presence of two primary tumors at diagnosis. Those that are detected within the first 12 months of the diagnosis of the first tumor can also be considered synchronic; those discovered after that period are called metachronous. There is no consensus about the origin of a synchronous breast neoplasm, and it may be a metastasis of a primary lesion or a second totally independent tumor[2].

DIAGNOSIS

Several studies demonstrate that the sensitivity of mammography and ultrasonography in detecting multiple foci of carcinoma is around 50%, while magnetic resonance imaging has a sensitivity of between 94-99% for invasive carcinoma and between 50-80% for ductal carcinoma in situ. The association of mammography, ultrasonography and magnetic resonance increases the diagnostic accuracy to close to 100%3 (Figure 1).

1 - Universidade Federal de Goiás (UFG).
2 - Maternidade Aristina Cândida de Senador Canedo de Goiás.
3 - Academia Brasileira de Mastologia.

ADDRESS
HAILA CRISTINA DO RÊGO SILVA
Rua 227-A, 145 – Setor Leste Universitário
Goiânia – GO, 7461-055

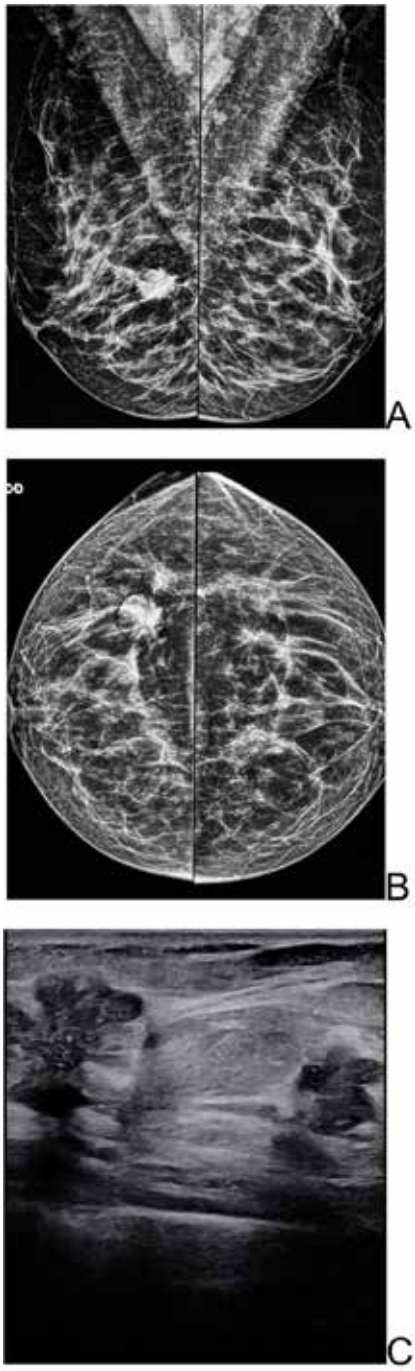

Figure 1 – A and B. Mammography, MLO and CC views showing two tumors in the right LOQ breast, with irregular shapes, spiculated margins and hyperdense. C. Ultrasonography showing two tumors in the LOQ of the right breast, with irregular shapes, spiculated margins, indistinct, angular, hypoechoic and non-parallel orientation.

Regarding bilateral breast cancer, the initial neoplasm is usually diagnosed by palpation, while the contralateral one is, in most cases, diagnosed by imaging tests such as mammography, ultrasound or magnetic resonance imaging, the first method being the most common in detecting the contralateral tumor (Figure 2).

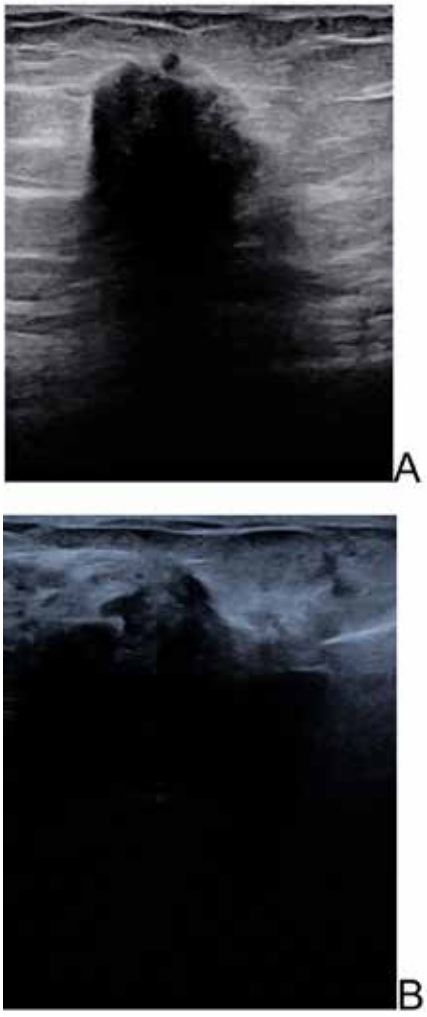

Figure 2 – Ultrasound. Bilateral breast carcinoma. A. Irregularly shaped nodule, located in the UIQ of the right breast, spiculated, indistinct and angular margins, hypoechoic, non-parallel orientation and posterior acoustic shadow. B. Tumor located in the UOQ of the left breast with an irregular shape, spiculated, indistinct and angular margins, hypoechoic, non-parallel orientation and posterior acoustic shadow.

This fact highlights the importance of screening the contralateral breast and monitoring all patients diagnosed with breast cancer.

TREATMENT

Traditionally, the presence of multicentricity represents a contraindication to conservative surgery due to the risk of failure in local control, and therefore mastectomy is indicated. Sentinel lymph node biopsy is effective and safe in this situation[4]. With the advent of new oncoplasty techniques, conservative surgeries and breast reconstructions with locoregional flaps or implants have become possible in women with multifocal or multicentric breast cancer (Figure 3). Radiotherapy or systemic treatment (chemotherapy and hormone therapy) follows the same guidelines proposed for unicentric tumors[5].

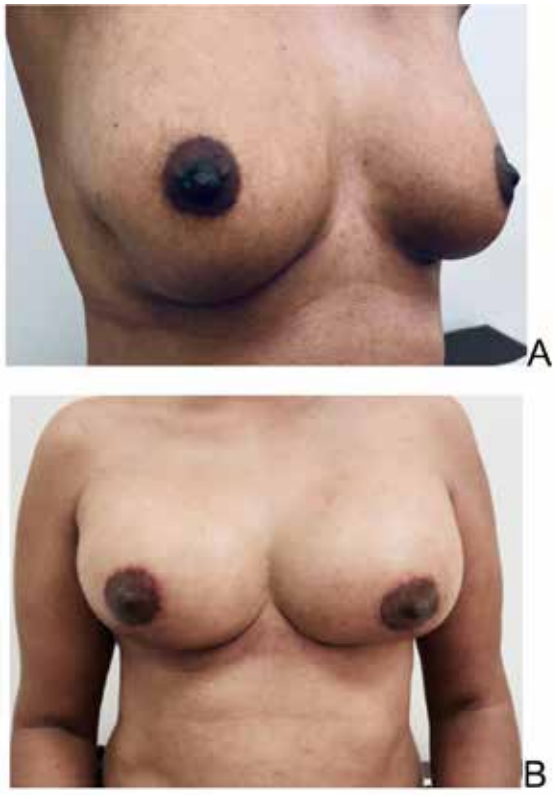

Figure 3 – Photograph of a woman undergoing conservative treatment for multifocal carcinoma of the LOQ right breast. A. Pre-surgery. B. After quadrantectomy, sentinel lymph node biopsy and mammoplasty with inclusion of silicone implants in the right breast and symmetrization of the opposite breast.

In the case of bilateral breast cancer, for many years bilateral mastectomy was the classic treatment for bilateral breast cancer. However, recent data demonstrate similar survival between patients with unilateral neoplasms and patients with bilateral breast tumors when treated with breast-conserving surgery along with chemotherapy, radiotherapy and hormone therapy. Therefore, conservation of the contralateral breast can be offered as a viable treatment option for patients with bilateral breast cancer, without compromising survival.

CONCLUSION

In multifocal and multicentric breast cancers, combined ultrasound, mammography, and magnetic resonance imaging provide diagnostic accuracy close to 100%. The individual sensitivity of the tests differs in relation to the types of ductal carcinoma in situ and invasive carcinoma6. With regard to bilateral breast cancer, the palpatory diagnostic method is the most used when the neoplasm is at an early stage, while in the contralateral one, imaging tests are used, usually mammography. Currently, the new oncoplasty techniques in the treatment of multicentric or multifocal breast cancer allow, in some cases, the performance of conservative surgeries and breast reconstructions. Radiotherapy or systemic treatment follows the same guidelines proposed for unicentric tumors[7]. With regard to bilateral breast cancer, bilateral mastectomy was the traditionally indicated treatment[8]. Research indicates, however, that breast-conserving surgery combined with chemotherapy, radiotherapy and hormone therapy offer similar results from a therapeutic point of view[9].

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OCCULT BREAST CANCER

AYLTON ALBERNAZ DIAS[1], DIEGO DE OLIVEIRA SILVA[1], FERNANDO COSTA ABREU FILHO[1], JOSIMAR OLIVEIRA DA SILVA1, ANDRÉ MAROCCOLO DE SOUSA[1], IZADORA CAIADO OLIVEIRA[1], JOÃO GABRIEL FRANCO LOPES[1], JOÃO BOSCO MACHADO DA SILVEIRA[2], JUAREZ ANTÔNIO DE SOUSA[1]

ABSTRACT

Occult breast cancer is defined as one that presents with metastasis in the axillary lymph nodes without clinical evidence in a supernumerary or accessory breast. Objective: The present study aims to analyze and describe occult breast cancer, as well as its clinical manifestation, diagnosis and treatment. Results: The analysis of local and adjacent lymph nodes to the breast, by means of ultrasound associated with biopsy, proved to be favorable for the accurate diagnosis of this pathology. Conclusion: Having been correctly evaluated and identified, this carcinoma has a good response to radical mastectomy, associated with complementary exams and chemotherapy.

KEYWORDS: HIDDEN BREAST CANCER, DIAGNOSIS, TREATMENT

INTRODUCTION

It is defined as one that presents with metastasis in the axillary lymph nodes without clinical, mammographic, ultrasonographic or magnetic resonance evidence of a primary tumor in the mammary gland or in the axillary extensions, in a supernumerary or accessory breast. Axillary lymphadenopathy is compatible with the diagnosis of cancer confirmed by pathology and immunohistochemistry. It was first described by Halsted in 1907 as neoplastic axillary glands with non-demonstrable breast cancer[1].

It is understood as a rare presentation of breast carcinoma, representing 0.3 to 1% of cases, with a peak incidence around 55 years of age. Adenocarcinoma is the most frequent histopathological diagnosis in biopsy of suspicious axillary lymph nodes. Even without confirming the primary site, adenocarcinoma commonly originates from the breast, especially if hormone receptors are positive[2].

In the current context of the Covid-19 pandemic, it is necessary to consider the recent vaccination history as a possible differential diagnosis, avoiding unnecessary biopsies (Figure 2).

CLINICAL MANIFESTATIONS

Characteristics that may lead to suspicion of neoplastic origin are: hardened lymph nodes with more than 1 cm, without local inflammatory signs, present for more than 30 days and in a single lymph node chain[3].

DIAGNOSIS

Initial tests are mammography, breast ultrasound, and chest X-ray. If they are normal, a lymph node histopathological analysis should be carried out.

Mammography (Figure 4) and ultrasound showed enlarged lymph nodes, with no imaging alteration in the glandular parenchyma. Magnetic resonance imaging, due to its high sensitivity, is the exam of choice for diagnostic confirmation[4].

The ultrasonographic evaluation of the lymph node should contain, size, shape (oval, round or irregular), circumscribed margin or not, cortical thickening (uniform or focal). At ultrasonography, a normal axillary lymph node usually has a transverse diameter of less than 8 mm, but may be enlarged, with a diameter of up to 12-13 mm and a longitudinal axis of up to 25 mm, showing hyperechogenic hilum, thin hypoechogenic cortex and few vessels on Doppler (Figure 1). The metastatic lymph node presents an increase in the transverse diameter and thickening of the cortical regions[5].

Normal lymph nodes present, on ultrasound, a thin or barely visible cortical bone or regular visible cortical bone measuring up to 2 mm. Inflammatory reactive lymph nodes present a visible cortex larger than 2 mm, but with a regular, centered hyperechogenic hilum (Figure 2). Lymph nodes with a cortical of more than 2 mm and with lobulations may be related to inflammatory processes, but secondary involvement cannot be ruled out. Lymph nodes with lobulations or focal cortical thickening are suspected of secondary involvement (Figures 5 and 6), and lymph nodes that are completely hypoechoic, with a hilum pushed to the periphery or absent, are often associated with metastatic secondary involvement with a high tumor burden (Figures 7 and 8) [6].

Lymph node biopsy can be performed by fine needle

1 - Universidade Federal de Goiás (UFG).
2 - Academia Brasileira de Mastologia.

ADDRESS
AYLTON ALBERNAZ DIAS
Av. Dr José Hermano N.303, Goiânia
GO, 74865-090

aspiration (FNA), core biopsy or excisional, depending on the experience of the sonographer, the depth of the lesion and the practice of the cytopathologist (Figure 9). Core needle biopsy has the advantage of having a histopathological result; however, it should be used with caution when the lymph nodes are located close to the vessels[7].

Differential diagnosis for thyroid, lung, stomach, pancreas, colon, melanoma, and lymphomas should be considered.

TREATMENT

Traditionally, occult breast cancer was treated with a radical mastectomy. Magnetic resonance imaging, an exam of high sensitivity and specificity, is the exam of choice when no breast alteration is observed and there is axillary disease. It can facilitate the identification of occult breast cancer and thus help in choosing the best form of treatment[3].

Chemotherapy, endocrine therapy, or anti-HER-2 therapy follows the recommendations for stage II or III disease.

Neoadjuvant systemic therapy should be considered, especially for patients with significant nodal involvement (N2-N3), after systemic staging for the presence of distant metastases[4].

Systemic treatment follows the breast cancer chemotherapy protocol[5].

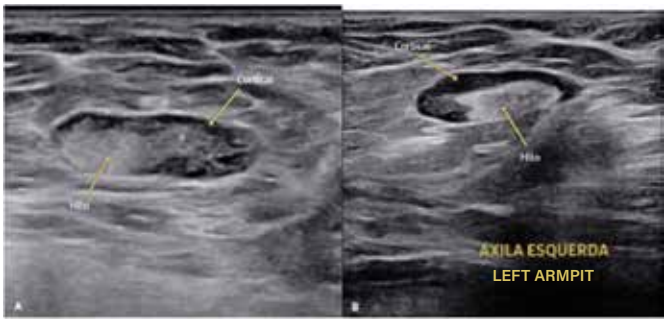

Figure 1 – Normal axillary lymph nodes. A. Axillary lymph node showing, on ultrasonography, a thin or barely visible cortical bone. B. Axillary lymph node showing, on ultrasound, regular visible cortical bone measuring up to 2 mm.

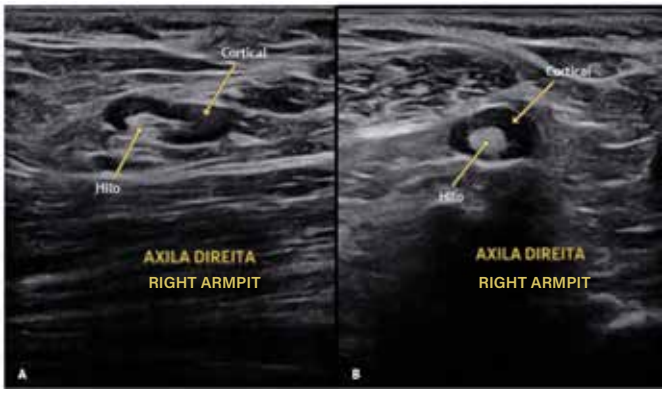

Figure 2 – Ultrasonography. Reactive inflammatory lymph nodes in the right armpit of a woman submitted to the Covid-19 vaccine. A and B. Lymph nodes present a visible cortical bone larger than 2 mm, but with a regular, centered hyperechogenic hilum.

Figure 3 – Ultrasonography. Axillary lymph nodes, all hypoechogenic, with a hilum pushed back to the periphery or absent, are often associated with secondary metastatic involvement with a high tumor burden.

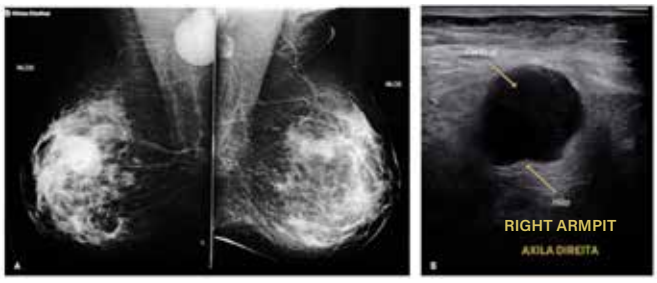

Figure 4 – A. Mammogram showing hypertrophic lymph node in the right armpit. B. Ultrasonography. Entirely hypoechogenic lymph node, with hilum pushed back to the periphery, associated with secondary metastatic involvement, in the right armpit, due to breast cancer.

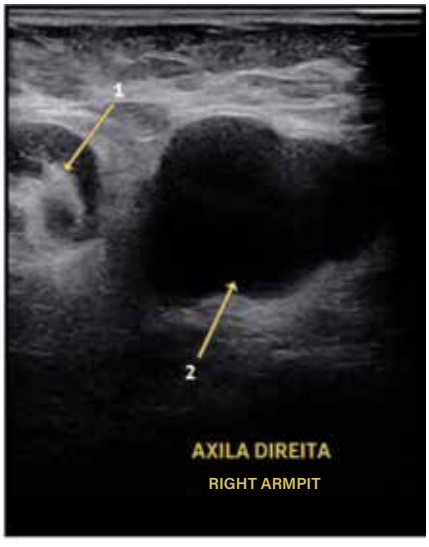

Figure 5 – Ultrasonography. Lymph nodes with thickened cortical bone and lobulations (arrow 1), lymph node entirely hypoechogenic, with hilum pushed back to the periphery (arrow 2) associated with secondary metastatic involvement in the right armpit due to breast cancer.

Figure 6 – Ultrasonography. Lymph node showing cortical size of more than 2 mm and with lobulations and hilum pushed back to the periphery associated with secondary metastatic involvement in the axilla, due to mammary carcinoma.

Figure 7 – Ultrasonography. Lymph node showing thickened cortical bone with lobulations, hilum pushed back to the periphery associated with secondary metastatic involvement in the armpit, due to breast carcinoma.

Figure 8 – Ultrasonography showing several lymph nodes showing a thickened cortical bone with lobulations and other lymph nodes, all hypoechogenic, with the hilum pushed to the periphery, associated with secondary metastatic involvement in the armpit, due to breast cancer.

Figure 9 – Axillary lymph node biopsy performed by fine needle aspiration (FNAB), guided by ultrasound.

CONCLUSION

Occult breast cancer is a rare form of manifestation of breast carcinoma, representing approximately 0.3% to 1% of cases, in which the peak incidence recorded occurs around 55 years of age. Hardened lymph nodes measuring more than 1 cm, without local inflammatory signs, present for more than 30 days and in a single lymph node chain are considered characteristic signs suspicious of neoplastic origin. Due to its high sensitivity, magnetic resonance imaging is considered the gold standard exam for confirming its diagnosis. The metastatic lymph node presents an increase in the transverse diameter and thickening of the cortical regions. Traditionally, occult breast cancer is treated with radical mastectomy, with good results, especially when correctly identified and evaluated, especially when associated with complementary tests and chemotherapy. Furthermore, systemic treatment follows the breast cancer chemotherapy protocol[6-8].

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