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DISSEMINATION AND ADVANCE

The promotion of research and scientific production is undoubtedly one of the main pillars of The Goias State Medical Residency Commission - CEREM Goiás, a reputable entity that plays an important role in the regional health scenario. Therefore, having as main objective the dissemination of scientific production by resident physicians, medical residency services and the medical community, we created the CEREM Goiás Scientific Magazine.

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Welcome to the first edition of the Scientific Journal CEREM-GO.

TÁRIK KASSEM SAIDAH
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DEATHS IN A NEONATAL INTENSIVE CARE UNIT IN THE HOSPITAL AND MATERNITY DONA IRIS

SIMONE CARRIJO SANTOS [1], LORENA CABRAL DE CASTRO LOURENZO [1], MIDIÃ FONSECA LIMA [1], PATRÍCIA GONÇALVES EVANGELISTA [2], BRUNA ABREU RAMOS [2]

ABSTRACT

Introduction: Currently, it is known that neonatal mortality is associated with the quality of health care, it is the main factor in infant mortality. The neonatal intensive care unit (NICU) appears as an expectation and one of the most effective factors in trying to reduce neonatal mortality in the country. The main causes of deaths are prematurity, congenital malformation, intrapartum asphyxia, perinatal infections and maternal factors. Objective: To describe the incidence profile of the causes found in deaths in the NICU of the Hospital e Maternidade Dona Iris (HMDI) from January 2016 to December 2018. Methods: This is a cross-sectional study, where the number and number of mortality profile at the HMDI NICU, Goiânia, Goiás, from 2016 to 2018. A review of the electronic medical record was carried out. Results: Total number of 126 deaths occurred in the HMDI NICU, with 45 deaths in 2016, with the highest incidence in extremely premature newborns (gestational age <28 weeks). With the total number of deaths less than 28 weeks equal to 20, between 28 weeks and 33 weeks and 6 days 13 deaths, 34 weeks to 36 weeks and 6 days 4 deaths. Among the term newborns (RNT- 37 weeks to 41 weeks and 6 days), 8 deaths and post-term newborns (> 42 weeks) were not registered. In 2017, 34 deaths were recorded, 14 of which in newborns less than 28 weeks of gestational age, 12 deaths between 28 weeks and 33 weeks and 6 days, 1 death between 34 weeks and 36 weeks and 6 days, 7 deaths in RNT and not there was death in a post-term newborn. And in 2018, 47 deaths were recorded, 24 deaths in newborns under 28 weeks, 12 deaths between 28 weeks and 33 weeks and 6 days, 4 deaths between 34 weeks and 36 weeks and 6 days, 7 deaths in RNT and there was no death in post-term newborns. Conclusion: In 2016, 45 deaths were found, with the highest incidence in extremely premature newborns (gestational age <28 weeks). Among the term newborns (RNT- 37 weeks to 41 weeks and 6 days), 8 deaths and post-term newborns (> 42 weeks) were not registered. In 2017, 34 deaths were recorded, 14 of which in newborns less than 28 weeks of gestational age, 12 deaths between 28 weeks and 33 weeks and 6 days, 1 death between 34 weeks and 36 weeks and 6 days, 7 deaths in RNT and not death occurred in post-term newborns. In 2018, 47 deaths were recorded, with 24 deaths in newborns aged less than 28 weeks, 12 deaths between 28 weeks and 33 weeks and 6 days, 4 deaths between 34 weeks and 36 weeks and 6 days, 7 deaths in newborns and not recorded death in post-term newborns.

KEYWORDS: NEONATAL MORTALITY. PREMATURITY. NEONATAL INTENSIVE CARE UNIT.

INTRODUCTION

Currently, it is known that neonatal mortality is associated with the quality of health care; it is the main factor of infant mortality since the 1990s in the country[1]. The neonatal intensive care unit (NICU) appears as an expectation and one of the most effective factors in trying to reduce neonatal mortality in the country. The NICU is reserved for the treatment of premature infants and newborns (NBs) who have a disease.

The reasons for mortality in the neonatal period are related to the conditions of pregnancy and childbirth, being influenced by the quality of prenatal care and childbirth. The closer the moment of birth is (early neonatal period, 0 to 6 days of life), the stronger the influence of birth conditions (especially gestational age and birth weight) and neonatal care for child survival[2].

The main causes of death according to the literature are: prematurity, congenital malformation, intrapartum asphyxia, perinatal infections and maternal factors[3,4]. The main reasons for hospitalization in NICUs are related to respiratory causes, low weight and prematurity.

Premature delivery is defined as one whose pregnancy ends before the 37th week and the extreme premature is defined as one whose pregnancy ends before the 28th week. Prematurity is related to major complications in the neonatal period, given its condition of biological vulnerability, due to immaturity related to its organism, which is a strong factor associated with neonatal mortality[5].

Birth weight and gestational age are the most important isolated factors related to neonatal death6. The risk of death being higher among newborns weighing less than 2500g and/or gestational age less than 37 weeks. The

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assessment of gestational age is important for planning neonatal care.

Therefore, the present study aims to analyze the deaths in NICU of the HMDI that occurred from January 2016 to December 2018 in order to describe the incidence profile of the causes found.

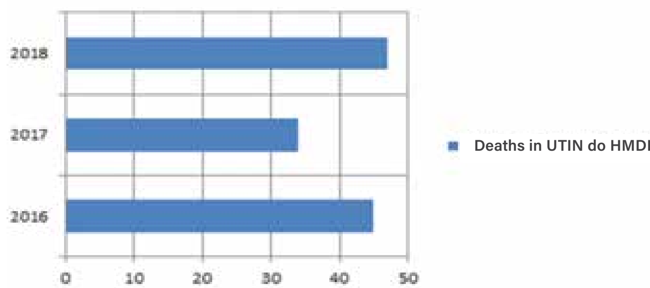
2. METHODS

This is a cross-sectional study, where the number and profile of mortality at the NICU of the Hospital e Maternidade Dona Iris (HMDI), located in the city of Goiânia, Goiás, between 2016 and 2018, was analyzed. A review of the electronic medical record was done in this period, with neither the patient nor the person responsible for it being exposed. Concomitant with the assessment of deaths that occurred during this period, it was analyzed the gestational age of the patients involved and their possible malformations.

The target audience was the 126 deaths that occurred at the HMDI NICU between the years 2016 and 2018, with the exclusion of neonatal deaths that occurred in the delivery room and patients who were transferred to other hospitals. This research was approved by the Research Ethics Committee of the Hospital e Maternidade Dona Iris on November 27th, 2019, CAEE 25740119.0.0000858. For data analysis, the Microsoft Excel 2010 program was used.

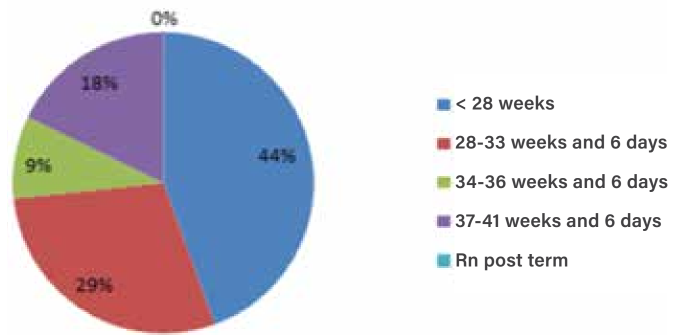
3. RESULTS

Graph 1 shows the total of 126 deaths that occurred in the HMDI NICU, with 45 deaths in 2016, 34 deaths in 2017 and 47 deaths in 2018.



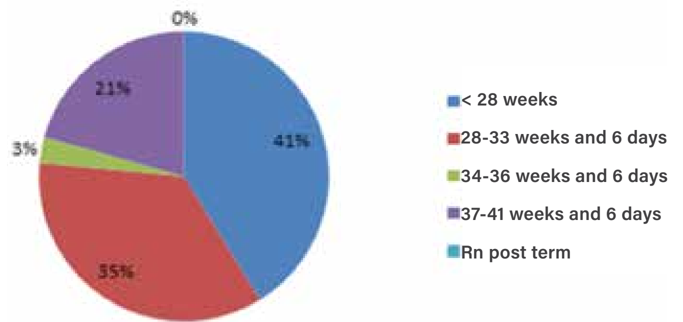
Graph 1 - numbers of deaths occurred in the NICU of the HMDI 2016 - 2018

In 2016, 45 deaths were found, with the highest incidence in extreme premature newborns (gestational age <28 weeks) - graph 1. The total number of deaths was equal to 20 for premature NBs with less than 28 weeks, between 28 weeks and 33 weeks and 6 days 13 deaths, 34 weeks to 36 weeks and 6 days 4 deaths. Among the full-term newborns (FT- 37 weeks to 41 weeks and 6 days), 8 deaths were recorded, and post-term newborns (> 42 weeks) there were no deaths.



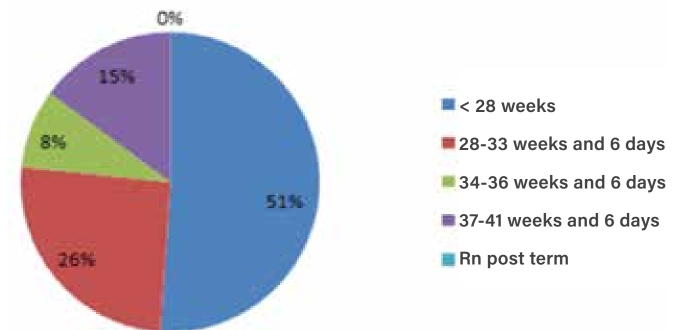
Graph 2 - mortality in the neonatal ICU in 2016 according to gestational age

In 2017, 34 deaths were recorded, 14 of which were in newborns less than 28 weeks of gestational age, 12 deaths between 28 weeks and 33 weeks and 6 days, 1 death between 34 weeks and 36 weeks and 6 days, 7 deaths in FT and there were no deaths in post-term newborns - graph 3.



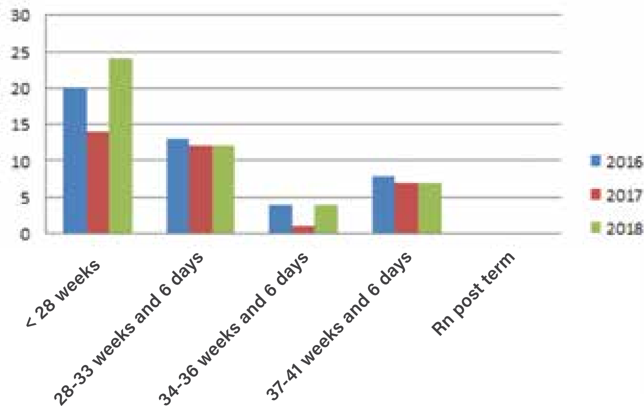
Graph 3 - mortality in the neonatal ICU in 2017 according to gestational age

In 2018, 47 deaths were recorded, being 24 deaths in NBs under 28 weeks, 12 deaths between 28 weeks and 33 weeks and 6 days, 4 deaths between 34 weeks and 36 weeks and 6 days, 7 deaths in FT and no deaths were recorded in post-term newborns - graph 4.



Graph 4 - mortality in the neonatal ICU in 2018 according to gestational age

Graph 5 shows a comparison of the incidence of deaths in relation to gestational age in the years 2016, 2017 and 2018.



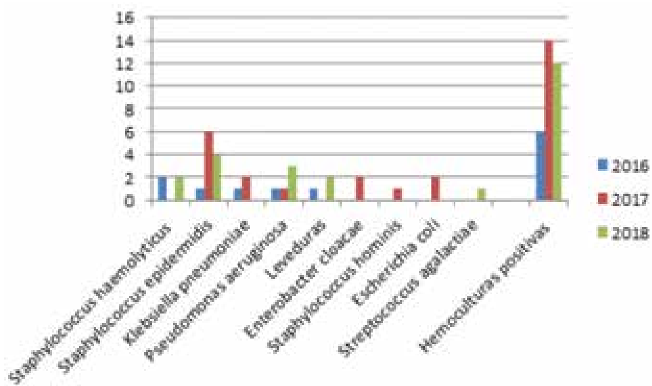
Graph 5 is a comparative sample between the years 2016, 2017 and 2018.

Table 1 shows the isolated infectious agents and their absolute number between the years 2016 to 2018.

	2016	2017	2018
Staphylococcus haemolyticus	2	0	2
Staphylococcus epidermidis	1	6	4
Klebsiella pneumoniae	1	2	0
Pseudomonas aeruginosa	1	1	3
Leveduras	1	0	2
Enterobacter cloacae	0	2	0
Staphylococcus hominis	0	1	0
Escherichia coli	0	2	0
Streptococcus agalactiae	0	0	1
Hemoculturas positivas	6	14	12

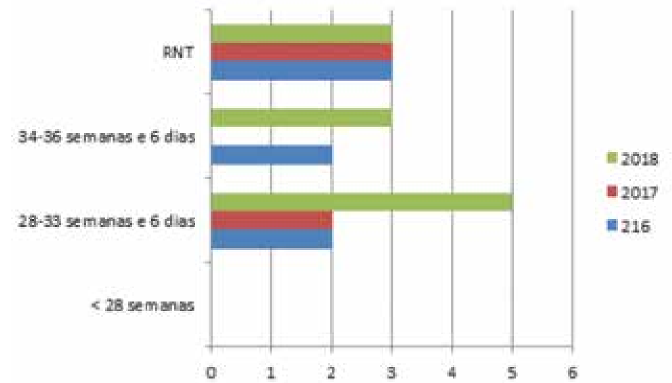
Table 1: Isolated infectious agents and their absolute number between the years 2016 to 2018

Graph 6 represents the comparison between the numbers of infectious agents in blood cultures from 2016 to 2018.



Graph 6 - comparison between blood cultures between the years 2016 to 2018

Deaths related to congenital malformations - graph 6 shows comparatively the deaths that occurred due to congenital malformations associated with gestational age in the period from 2016 to 2018.



Graph 6 - number of deaths associated with congenital malformations x gestational age

DISCUSSION

Neonatal mortality should be a target of worldwide interest, as its "fall" is slow compared to the mortality rate in toddlers, preschool and school patients[8]. Neonatal mortality is an indicator that is related to health care, the mother--child binomial and timely access to qualified delivery and birth care services. An important point is the contribution of this group of newborns to infant mortality

This study analyzed the deaths that occurred in the NICU of the HMDI between the years 2016 to 2018, tracing the profile of deaths according to gestational age, relating their cause to prematurity, infections, associated with congenital malformations and/or related to the delivery room, aiming to seek ways to improve the quality of pre, peri and post-natal care. According to data from the Brazilian Institute of Geography and Statistics (IBGE), the average infant mortality rate in the city of Goiânia in 2016 was 12.54 per 1,000 live births, compared to the one in 2017, which was 11.25. Graph 1 shows that there was a reduction between the years 2016 and 2017.

The data in this study corroborates with data found in a similar study, where the incidence of the number of deaths was higher in newborns less than 28 weeks, due to the greater vulnerability of the newborn, greater chance of complications because of the immaturity of multiple organs, such as structural pulmonary immaturity.

Extreme prematurity, although representing only 1 to 2% of births, is responsible for one third of perinatal deaths9. Prematurity is one of the main risk factors for neonatal mortality. The chance of death in NBs, at the 25th week of pregnancy, can be 32 times higher than at the 31st week10,11. Most of the HMDI study found the highest death rate in extremely premature infants (less than 28 weeks), 44% of deaths in 2016 (graph 2), 41% in 2017 (graph 3) and

51% in 2018 (graph 3), thus showing the greater vulnerability in this group.

In the study carried out at the NICU of the Hospital Geral de Caxias do Sul, it was found that a large number of NBs died on the first day due to maternal infection, a disease that can be prevented through good prenatal care. It was important to note that in this group of NBs who died on the first day, 16.2% of mothers did not have any consultations during pregnancy, which certainly contributed to the evolution of preterm birth and unfavorable prognosis of the NBs[12]. In Pelotas, less than five prenatal consultations were found as one of the main risk factors for early neonatal mortality[13].

The importance of prenatal care is also related to the diagnosis of congenital malformations in the uterus to define the best conduct in the delivery room, as the suitable mode of delivery. As an example, there is the diagnosis of myelomeningocele in the prenatal period, which indicates the cesarean delivery route and how postnatal follow-up will take place. Regarding malformations, in some regions of the world, they represent the leading cause of neonatal deaths, accounting for 25% of deaths in this period, overcoming prematurity (associated with 20% of deaths) [14, 15].

In this study, deaths in NBs older than 34 weeks were mostly associated with congenital malformations. The association of congenital malformations with perinatal mortality is also a current concern, as they are associated with fetal deaths and deaths during the first month of life. Malformations are also found in newborns less than 34 weeks, but can be underdiagnosed due to early mortality.

In HMDI the number of deaths due to congenital malformation was mostly diagnosed in newborns over 34 weeks. During the analysis of these three years, 9 patients were diagnosed who died due to malformations in NBs less than 34 weeks and in newborns over 34 weeks, 14 deaths were related to congenital malformations, graph 7.

Congenital anomalies are morphological, structural or functional changes which can be detected in intrauterine life, or after birth. According to the World Health Organization (WHO), worldwide, congenital anomalies were the cause of death for 303,000 live births, that is, 7% of the total, during the first month of life in 2016. They may be linked to genetic factors (genetic syndromes), environmental and multifactorial[16].

The prevention of neonatal sepsis by means of elements for the control of perinatal infections and hospital infection by microorganisms, including the establishment of a hand washing routine and the existence of a functioning Hospital Infection Control Commission, may result in a reduction in the number of deaths, being able to trace the microbiological profile of hospital infection cases[8]. Sepsis is a major cause of morbidity and mortality in the neonatal period. It affects FT and PTNB, the latter group being the most vulnerable, whose incidence can reach 25%, being responsible for approximately half of the deaths that occurred in the neonatal period in developed countries[17].

At the NICU of the Hospital das Clínicas from the Federal University of Triângulo Mineiro, a greater susceptibility to the development of sepsis in premature neonates was observed, reinforcing the aggravating potential of this condition in the development of sepsis[18]. In the same study despite efforts to isolate microorganisms, on average, blood cultures are positive in 34% of "septic" patients, ranging from 9 to 64%.

In HMDI, a high rate of positive blood cultures was observed in 2017, an important data that may indicate an increase in neonatal sepsis, with 14 positive blood cultures being isolated that year. In 2016, 6 deaths associated with positive blood culture were isolated and in 2018, 12 positive blood cultures were isolated - graph 6.

Based on the determination of these causes, interventions that reduce the occurrence of premature births and, consequently, infant mortality rates can be planned[19].

CONCLUSION

In 2016, 45 deaths were found, with the highest incidence in extreme premature newborns (gestational age <28 weeks) - graph 1. The total number of deaths less than 28 weeks equal to 20, between 28 weeks and 33 weeks and 6 days 13 deaths, 34 weeks to 36 weeks and 6 days 4 deaths. Among the full-term newborns (FT- 37 weeks to 41 weeks and 6 days), 8 deaths were recorded, and among post-term newborns (> 42 weeks) there were no deaths.

In 2017, 34 deaths were recorded, 14 of which were in newborns less than 28 weeks of gestational age, 12 deaths between 28 weeks and 33 weeks and 6 days, 1 death between 34 weeks and 36 weeks and 6 days, 7 deaths in FT and no deaths in post-term newborns. In 2018, 47 deaths were recorded, 24 deaths in newborns aged less than 28 weeks, 12 deaths between 28 weeks and 33 weeks and 6 days, 4 deaths between 34 weeks and 36 weeks and 6 days, 7 deaths in FT and no registered deaths in post-term newborns.

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HIGH-RISK NEWBORN: PROFILE OF FACTORS THAT CONTRIBUTED TO ADMISSION TO NEONATAL INTENSIVE CARE UNIT

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ABSTRACT

Introduction: Deaths within the hospital environment now account for the largest proportion of infant deaths. There are several pre or perinatal situations that lead the NB to be considered at risk and require more specialized monitoring, sometimes requiring admission to a neonatal intensive care unit. Objectives: To describe the factors that take newborns to the intensive care unit.
Methods: Quantitative and retrospective cross-sectional study, carried out in a public maternity of reference in Goiânia-GO.
Results: The period analyzed was from January to December 2017 with a total of 259 newborns that passed through the Hospital's ICU during this period. The maternal profile is made up of women between 18 and 30 years old, 65% (167), primiparous 44% (115), without prenatal care 47% (121), and those who underwent prenatal care had less than 7 visits with 44% (114), the route of delivery was surgical (cesarean) with 54% (140), with gestational hypertensive disease being the most incident risk factor with 19% (50) followed by urinary tract infections also with 19% (49). The profile of the NBs, on the other hand, is male with 56% (146), with gestational age less than 36 weeks 77% (199), apgar first minute less than 7 with 57% (147) and fifth minute greater than 8 with 81% (2009), as risk factors present jaundice 88% (228), acute respiratory infection with 77% (199) and INN in 70% (181), with AIG presentation IN 80% (205) and with weight less than 2,500 grams 72% (182). Conclusion: The maternal profile is of women between 18 and 30 years old, primiparous, without prenatal care, born by cesarean section, with gestational hypertensive disease as the main risk factor. The profile of the NBs is of boys, with gestational age less than 36 weeks, apgar first minute less than 7 and apgar fifth minute greater than 8, icteric, with acute respiratory infection and neonatal infection, AGA and with weight less than 2,500 grams.

KEYWORDS: NEWBORN, ICU. FACTORS. RISKS.

INTRODUCTION

The relevant technological advances in the health area in the last decades have determined the survival of a much larger number of newborns (NBs) considered at risk. However, the mortality rates of these newborns have been significant[1].

Neonatal mortality gained relevance with the decrease in the infant mortality rate due to the decrease in the post--neonatal component. Deaths within the hospital started to account for the largest proportion of infant deaths[2].

Even with advances in perinatology, the reduction of neonatal infant mortality is still difficult, as it is strongly linked to both biological factors and prenatal care, childbirth and the newborn[3]. Its prevention involves mainly investments in hospital services requiring more complex technology, as well as educational and public health actions[4].

There are several prenatal or perinatal situations that lead the NB to be considered at risk and need more specialized monitoring, sometimes requiring admission to a neonatal intensive care unit (NICU) [5]. Among these we can mention: prematurity, low or very low birth weight, congenital malformations, genetic syndromes, congenital infections, signs of perinatal asphyxia and other complications such as symptomatic hyperbilirubinemia, hypoglycemia and polycythemia[6].

Prematurity alone constitutes a major public health problem, as it is a determinant of neonatal morbidity and mortality, especially in underdeveloped countries[7].

Currently, the WHO adopts the classification related to the gestational age of the NB specifying that preterm is the child born with less than 37 weeks of gestational age (or with less than 259 days of gestation), at term those born between 37 and 41 weeks and six days of gestational age, and post-term those born with 42 weeks or more of gestational age. In this sense, general immaturity can lead to dysfunction in any organ in the body system9. Thus, the premature neonate is at risk of suffering a wide range of problems, including respiratory distress syndrome, apnea, bronchial pulmonary dysplasia, patent ductus arteriosus, ineffective term regulation, hyperglycemia, intraventricular hemorrha-

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ge, gastrointestinal dysfunction, retinopathy, hyperbilirubinemia and infection[7].

For these considerations, it is necessary within this unit to know the factors that watch over neonates in the Intensive Care Unit and thus establish the best care strategies seeking to improve the quality of care provided.

Therefore, the objective here is to describe the factors that take newborns to the Intensive Care Unit.

METHODS

Cross-sectional quantitative and retrospective study, carried out in a public maternity of reference in Goiânia-GO. The hospital is part of the Municipal Health Network of Goiânia and it specializes in humanized care in low, medium and high risk gynecology, obstetrics and neonatology and aims to develop health care for women and children, exclusively for users of the Unified Health System (Sistema Único de Saúde - SUS), it also acts as a teaching, research and extension hospital for courses related to health at the Federal University of Goiás (UFG).

The sample consisted of NBs admitted to the Neonatal Intensive Care Unit at the institution of choice, from January to December 2017, including all NBs who passed through the ICU in the established period. NBs whose collected data sheets were incomplete were excluded (Annex 1).

The maternal variables surveyed were maternal age, number of children, number of prenatal visits, maternal risk factors and type of delivery. Neonatal variables were Apgar score in the first and fifth minutes of life and gestational age, sex, risk factors and weight.

RESULTS

The period analyzed was from January to December 2017 with a total of 259 newborns who passed through the Hospital's ICU during this period.

	Number of patients (N=259)	
	N	%
MATERNAL AGE		
> 17	27	10
18 – 30	167	65
31 <	65	25
NUMBER OF PREGNANCIES		
1	115	44
2-3	103	40
< 4	41	16
PRENATAL CONSULTATIONS		
> 7	114	44
8 <	24	9
0	121	47
TYPE OF BIRTH		
Cesarean	140	54
Normal	119	46
MAIN RISK FACTORS		
SHDP	50	19
Urinary tract infection	49	19
Water breaking	23	9
Smoker	11	4
Diabetes	7	3
Elitism	6	2.5
Illicit drugs	6	2.5
Hellp Syndrome	5	2
Oligohydramnios	3	1

Source: Research data, 2018

Table 1 - Distribution of maternal characteristics of NBs in the HMDI ICU, Goiânia (GO), Brazil, 2017.

	Number of patients (N=259)	
	N	%
SEX		
Female	113	44
Male	146	56
GESTATIONAL AGE		
< 36 weeks	199	77
> 37 weeks	60	23
APGAR 1st		
< 7	147	57
8 >	112	43
APGAR 5th		
< 7	50	19
8 >	209	81
ICTERUS		
Yes	228	88
No	31	12
ACUTE RESPIRATORY INFECTION		
Yes	199	77
No	60	23
NEONATAL INFECTION		
Yes	181	70
No	78	30
PRESENTATION IN RELATION TO GESTATIONAL AGE		
AGA	205	80
LGA	22	8
SGA	32	12
WEIGHT RANGE (IN GRAMS)		
<2.500	186	72
>2.501	73	28

Source: Research data, 2018.

Table 2 - Distribution of the characteristics of the NBs admitted to the HMDI ICU, Goiânia (GO), Brazil, 2017.

DISCUSSION

In Brazil, neonatal intensive care has progressed remarkably in the last 20 years, somewhat following the global trend. Assessing risk becomes a very difficult task, since the concept of risk is associated with the possibilities and the link between a risk factor and damage is not always explained. Specifically, the concept of risk newborns emerges so that it is possible to identify the degrees of vulnerability in the periods of pregnancy, as well as those prior to them, in addition to the birth conditions of these children[13]. Among the considerations, risk newborns are those who have problems in their development, surviving events that lead to traumatic or premature birth, resulting from the influence of biomedical factors, such as biological, genetic and perinatal factors, in addition to environmental factors such as parent-baby interaction, socioeco-

nomic situation, family situation, among others[15].

The maternal profile is made up of women between 18 and 30 years old, 65% (167) and 44% primiparous (115). Brauner et al (2015) believes that the maternal age group that most predominates is 30 to 39 years old and primiparous, which comprises the woman's fertile age.

The way of delivery was surgical (cesarean) with 54% (140). Studies by Lima et al (2015) to describe the clinical aspects of newborns admitted to the NICU of a reference hospital in the northern region of the country found young adult mothers, with inadequate prenatal care (72.6%), cesarean deliveries (56.0%) corroborating this research. Silva et al (2015) reveals that the operative mode of delivery can be considered a relevant procedure for the reduction of perinatal disorders, which increases the survival of newborns, a fact also found in the studies by Tragante (2009) and Pieszak et al., (2013).

Gestational hypertensive disease was the most incident risk factor with 19% (50) followed by urinary tract infections, with 19% (49) disagreeing with Brauner et al (2015) in his findings where he stated hypertension and smoking as the main risk factors. Prado et al (2017) reveal that pregnant women with hypertension are 3.47 (95% CI: 1.37 - 8.81) times more likely to have a premature child and 2.55 (1.03 - 6.32) times more likely to have a child with low weight than those without risks to pregnancy.

The study showed a profile of women of 47% who did not have prenatal care and those who had less than 7 consultations, showing difficulty in adhering to the prenatal care program which directly impacts the health of the NBs. Kassar et al (2013) reveals that the chance of neonatal deaths is greater in the group of mothers with inadequate prenatal care, revealing how health care during pregnancy plays an important role in the outcome. According to Moura et al (2011) hypertension is still the biggest cause of fetal or newborn deaths, thus being very important to have real knowledge about this gestational pathology.

The profile of the NBs is male, with 56% (146), with gestational age under 36 weeks 77% (199). Nowadays, the birth of preterm children is still an important cause of perinatal mortality. It is estimated that 13 million children worldwide are born prematurely each year20. The WHO defines PTNB, the live newborn with less than 37 weeks, that is, less than 259 days of gestation, counting from the first day of the last menstrual period, regardless of birth weight19. Among these factors that lead to preterm birth are: race, age, nutritional status, weight gain during pregnancy, socioeconomic level, professional activity, smoking, drug use, obstetric bad past, prenatal follow-up, uterine abnormalities, clinical and obstetric complications, fetal conditions, births, twin or multiple pregnancies, premature rupture of membranes, fetal malformation, polyhydramnios during pregnancy, abdominal surgery during pregnancy, prior conization, chorioamnionitis, maternal hyperthermia, uterine bleeding, among others22, 23, 24,25.

NBs had a prevalence of Apgar 1st minute less than 7 with 57% (147) and 5th minute greater than 8 with 81%. Ribeiro et al (2009) highlights that the low Apgar score in the 5th minute is considered the most accurate index for the prognosis of the child's neurological health and death, the Apgar directly reflects that the vitality conditions of the newborn is related to the quality of care received at delivery, the lower the Apgar score in the 1st and 5th minutes of life, the lower the chances of survival.

In the study, 80% (205) of newborns weighing less than 2,500 grams were found 72% (182). Several authors have studied the impact of birth weight on the levels of morbidity and mortality. This variable has occupied an important place when related to illness and death in the first year of life20. Low birth weight occurs due to multiple factors. The risk factors that contribute to this condition are delayed intrauterine growth, prematurity, pre-gestational maternal weight less than 50 kg, interpartum interval less than 18 months, history of maternal malnutrition, previous premature births, multiparity (over three children), primiparous, previous LBW, active and passive smoking, low maternal education, teenage mothers or those over the age of 35, absence or insufficiency of prenatal care, maternal arterial hypertension, among others, which can interfere alone or associated4. Prematurity (72%) and low birth weight (69%) in studies by Quaresma et al (2018) were the main diseases associated with hospitalization during the neonatal period.

As risk factors they present jaundice 88% (228). The newborn's hyperbilirubinemia or jaundice is known as a pathological entity that must be promptly identified and differentiated from the physiological jaundice present in many babies[23]. The slightly elevated concentration of indirect bilirubin, seen in two thirds of newborns, does not necessarily indicate a disease. However, it is important to distinguish physiological from pathological jaundice, which is characterized as one of the factors that may lead to the need for the newborn's admission to the neonatal ICU[26].

Acute respiratory infection was present in 77% (199) and neonatal infections in 70% (181). Infection remains the main determinant of mortality in the neonatal period. Studies carried out by Rolim and Eickmann (2016) showed that maternal factors, understood as the use of antibiotics during pregnancy and the lack of prenatal care, were related to the appearance of neonatal sepsis. For Alves (2011) sepsis is a devastating complication and an important cause of morbidity and mortality, highlighting the emerging need to systematize effective interventions.

CONCLUSION

The maternal profile is of women between 18 and 30 years old, primiparous, without prenatal care, birth by cesarean section, with gestational hypertensive disease as the main risk factor.

The profile of the NBs is of boys, with gestational age less than 36 weeks, with apgar first minute less than 7 and apgar fifth minute greater than 8, jaundiced, with acute

respiratory infection and neonatal infection, AGA and weighing less than 2,500 grams.

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ORIGINAL ARTICLE

CONSUMPTION OF ALCOHOL, OTHER DRUGS AND SEXUAL CONDUCTS IN MEN LIVING IN A STREET SITUATION IN GOIÁS

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ABSTRACT
The homeless population is a heterogeneous population group consisting of people who have in common the guarantee of survival through productive activities on the streets, interrupted or weakened family ties and irregular living. The present study aimed to investigate the social practices of this population regarding sexual behaviors and consumption of alcohol and other drugs. For this sample groups enclosed questionnaires were used. The sampling involved the internal life of the Mission, a philanthropic institution that works in the recovery of people on the streets. Research has shown the existence of two distinct groups, with differences in the type of drug used and the social and sexual behavior. The purpose of this work was to study the relationship between sexual conduct and the consumption of alcohol and other drugs in the population living on the street in Anápolis. For this, we analyzed risk behaviors related to sexually transmitted diseases, specifically sexual activities, the use of alcohol and other drugs in individuals living on the streets in Goiás. The average onset of addiction found in this study was 15.12 years of age, where 32.6% reported having started the addiction due to family factors, such as family members who use or are dependent on alcohol or drugs, use of alcohol in family festivities and family conflicts. The pattern of dependence found was of two distinct groups, the group of alcoholics and the group of crack users, with a history of thefts to buy drugs, involvement with the police and homosexual relations.

KEYWORDS: RISK BEHAVIOR, DRUG ADDICTION, HOMELESS

INTRODUCTION

Homeless population is a heterogeneous population group made up of people who have in common the guarantee of survival through productive activities developed on the streets, broken or weakened family ties and the lack of regular housing reference[1].

The homeless population is one of the most vulnerable regarding the transmission of HIV and other sexually transmitted diseases because it includes high-risk groups formed by prisoners, crack and cocaine users, sex workers, minority groups and people with mental disorders[2,3].

Since 2004, the Ministry of Social Development and Fight Against Hunger (MDS) has proposed the debate and includes in its agenda the formulation of public policies aimed specifically at the homeless population. In December 2009, the National Policy for the "homeless population" was instituted and the Intersectorial Committee for Follow-up and Monitoring of this population group was created. One of its policy objectives is to provide broad, simplified and secure access to services and programs that integrate public health, education, social security, social assistance, housing, security, culture, sports, leisure, work and income policies.

For many years, care for the homeless has been strongly related to non-governmental organizations (NGOs) and to specific government organizations in some municipalities. Missão Vida is a philanthropic institution founded in 1983 that works with homeless people. Today, it has six Screening Centers (CT) spread across Brazil, where inmates receive first care in all areas necessary for their physical, psychological and social recovery. After a period of occupational therapies, they are sent to the next stage: In the "Beggars" Recovery Center, developed in Cocalzinho (GO), the "ex-beggar" continues to participate in occupational therapies, after undergoing medical and dental treatment. At this moment, he is taken to live with other interns, and goes through a learning process that includes the reestablishment of a daily routine, with organization of time and activities focused on work. At the end of this stage, the intern is directed to the Reintegration Center, which is in Anápolis (GO). At this moment, Missão Vida assists them in the search for jobs and for them to resume

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the link with their families. For this, computing, English and professional courses are given.

In recent years, greater attention has been given to the homeless population, there has been further investigation, with census research, involving and allowing the development of new concepts and applied methodologies, which effectively measure and deepen the knowledge of the social group[4]. However, much research is still needed to better understand these people, their determinants, their needs and what public policies should be involved to alleviate the suffering of these people[5].

Therefore, the objective of this work is to evaluate risk behaviors related to sexually transmitted diseases, specifically sexual activities, the use of alcohol and other drugs in individuals living on the street in Goiás. To do this, we will try to identify how long the individual has been homeless, know the types of dependency experienced by these residents, register the age of insertion in addiction, know the pattern of alcohol consumption in this specific population, identify the maximum time of abstinence since the beginning of the addiction and identify sexual behavior.

METHODS

The work is a cross-sectional study through a questionnaire. Initially, we focused in bibliographic research, within the subjects of sexually transmitted diseases, alcohol consumption and illegal substances among street people, male sexual practices in this same group of people. Subsequently, a field survey was carried out at Missão Vida, Anápolis and Cocalzinho, Goiás. This field survey was carried out by collecting data from inmates through a questionnaire containing closed questions.

The instrument used was elaborated according to the methodologies of researchers from the Federal University of Goiás for the elaboration of the project "Study of the consumption of alcohol and other drugs in individuals living on the streets in Goiás". The inmates were asked to answer the instrument individually, through interviews, in offices provided by Missão Vida. In other words, the students and teachers involved in this project went to the units of Missão Vida, in the municipality of Anápolis and Cocalzinho, in order to collect the data.

The statistical treatment of the data was carried out using the Statistical Package for Social Sciences SPSS, version 13.0 of 2004. The statistical analysis was carried out through parametric and non-parametric tests. The questionnaires will be kept for five years under the responsibility of the researcher in charge. After this period they will be incinerated.

200 male interns of Missão Vida, who lived on the streets and who were being treated there, participated in the research.

Respondents were asked to answer a questionnaire containing closed questions, which was answered in the units of Missão Vida in the municipalities of Anápolis and Cocalzinho, Goiás.

The benefits of this study for the research participants were the elucidation regarding sexually transmitted diseases, through educational action. In addition, during the interview the participant was able to receive clarifications and guidance on prevention and health promotion. It was noted that homeless people, being an extremely devalued and vulnerable population, would feel benefited by the moment of specialized listening and many took the opportunity to unburden. When any sexually transmitted disease was identified in any of the participants, the news was given to the participants by qualified nursing or psychology professionals. Then he was instructed to seek the specialized health service, and this was done through referral by Dr. Benjamim Spadoni, responsible for the institution. The municipal health secretariat was contacted in order to be aware of the testing of inmates and consequently receive patient demand arising from this fact, thus providing full support.

The risk of individuals' participation in this research involved questions of privacy and confidentiality, the possibility of them feeling embarrassed when answering the questionnaire. This risk was mitigated by the interviewer's information that the participant could avoid answering the unwanted questions. In addition, absolute confidentiality of the information was guaranteed, since the respective questionnaires did not have the identification of the participant and were handled only by the researchers that took part in this project. In addition, the data was statistically treated in a collectively form.

This study was evaluated and approved by the Research Ethics Committee (CEP) of Centro Universitário de Anápolis, registered under number 530,475.

RESULTS

All tables are presented with percentages referring to valid information, excluding individuals who did not respond. There were a total of 153 questionnaires. In front of each variable, the total number of individuals with valid answers will be indicated, being the reference to calculate the respective percentages. The percentage of those who did not answer will be indicated at the bottom of the table.

Origin of the Participant of the Research	
Brasília (DF)	15% (n=23)
Anápolis (GO)	8,4% (n=13)
Goiânia (GO)	7,9% (n=12)
Outras cidades (22)	68,7% (n=105)

Table 1- Distribution of the origin of the participants of the research carried out in the Vida, Goiás, 2019 mission.

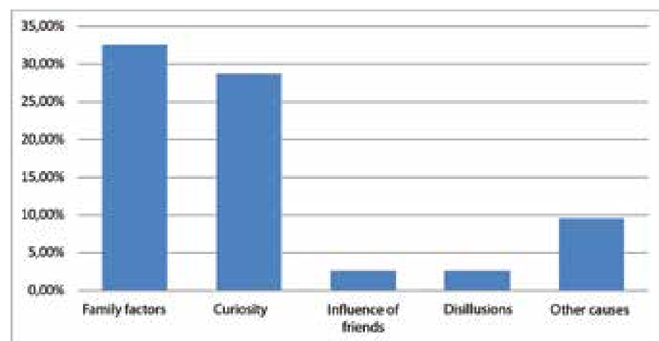
The dwelling time on the street was on average 500 days (1.36 years), with a minimum of 1 day and a maximum of 18250 days (50.69 years), with a standard deviation of 3464 days (9.62 years). The size of the standard deviation shows that the time spent on the street varies on average

from 1 to 10 years.

The age at which alcohol and other drugs were started was, on average, 15.12 years, with the lowest age found being 4 years, the highest age at onset at 45, with a standard deviation of 6.47 years. . This shows that they started using these substances in adolescence and youth probably between 9 and 21 years of age.

As for the level of education, 46.5% declared having up to 9 years of schooling, 28.6% up to 12 years, 24.9% 17 years of schooling. This last group corresponds to participants who have higher education. It should be noted that this percentage is higher than the total percentage of Brazilians who have higher education. However, it is clear that despite the significant number of inmates with higher education, most have not completed primary education.

A significant part (32.6%) reported having started their addiction due to family factors, such as family members who use or are dependent on alcohol or drugs, alcohol use in family festivities and family conflicts. Many (28.7%) reported having started using it out of curiosity. Influence of friends 2.6%; amorous delusions 2.6%; other causes 9.6%, as can be seen in Graph 1.



Graph 1 - Distribution of the factors that led to the start of the addiction of the participants of the research carried out in Missão Vida, Goiás, 2019.

3.1 HOSPITALIZATIONS AND REINCIDENCES

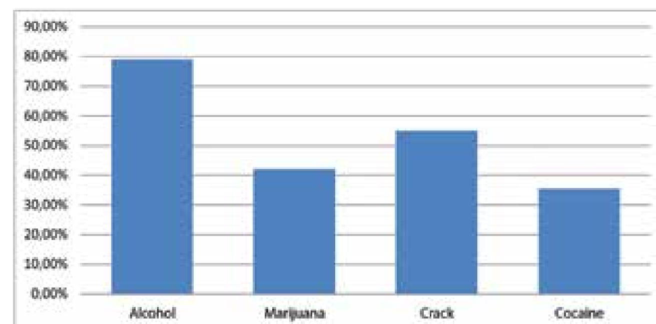
Most of the participants 54.5% have already been admitted to other institutions, while 106 participants (45.5%) have never been to another institution, or were only admitted at Missão Vida. Of those who were hospitalized in other institutions, 21.5% had only one hospitalization, 11.2% had 2 hospitalizations and the other 40.2% had 3 or more, showing a tendency to multiple hospitalizations and consequently to relapses.

Regarding hospitalizations in Missão Vida, 67.2% were hospitalized for the first time, 23.2% for the second time, and the other 9.4% had 3 or more hospitalizations. Although the majority of participants were hospitalized at Missão Vida for the first time, 32.6% of inmates have returned for a second or third hospitalization.

The maximum abstinence time since the beginning of addiction after hospitalizations was on average 9.71 months, with the maximum reported time being 11.15 years and the minimum time being of 0 (days), with a standard deviation of 1.62 years. This data confirms the others regarding the frequency of readmissions, indicating that the average abstinence time is 1 ½ years, after which recurrences occur.

3.2. DEPENDENCE PATTERN

We asked the participants which drug they consider themselves addicted to, and for each option, they could affirm or deny their addiction to the mentioned drug. As for alcohol, the majority (79%) declared to be addicted to alcohol and 21% declared not to be addicted to alcohol. 55% said they were addicted to crack, in relation to marijuana, 42.2% declared they were addicted to marijuana, and 35.4% said they were addicted to cocaine. Such values can be better visualized in Graph 2. It can be seen that most are dependent on alcohol and crack, which are cheap and easily accessible drugs in Brazil despite crack not being legalized while alcohol is of free use for people over 18.



Graph 2 - Distribution of drugs considered as addiction by the participants of the research carried out in Missão Vida, Goiás, 2019

A series of chi-square tests was carried out to verify the associations of addictions between drugs. We initially analyzed the drugs that are associated with the use of crack. 73% report associating crack with marijuana ($p < 0.05$), 65.9% of crack users report making concomitant use of alcohol ($p < 0.05$), 59.5% report associating crack with cocaine ($p < 0.05$).

The use of crack associated with the use of alcohol, marijuana and cocaine is mainly due to the effect of alcohol and marijuana in generating central nervous system depression, and cocaine to its stimulating effect. The other drugs, mentioned in the questionnaire, associated with crack, were not significant. The user of alcohol uses less crack than the user of crack uses alcohol, that is, there is a pattern of poly drug abuse in crack users that is generally not present in alcohol users.

Abuse Drugs	Associated Drugs
Crack	Marijuana (73%), Alcohol (65,9%), Cocaine (59,5%)
Marijuana	Crack (85,2%), cocaine (67,6%)
Cocaine	Crack (92,6%), Marijuana (90,1%)
Alcohol	Crack (45,9%)

Table 2- Distribution of the association of substances reported by the participants of the research carried out in Missão Vida, Goiás, 2019.

Regarding marijuana-related drug use associations, 85.2% of marijuana users use crack ($p<0.05$). 67.6% of marijuana users use cocaine ($p<0.05$).

According to associations between the use of other drugs and cocaine, it was observed that 92.6% of cocaine users use crack ($p<0.05$), 90.1% of cocaine users use marijuana ($p<0.05$).

The only significant association found in alcohol users with other drugs was that 45.9% of alcohol users use crack ($p<0.05$).

Therefore, it is observed that there are probably two different groups regarding the use of drugs of abuse, the alcoholic group, which generally uses only alcohol and the crack user group, which is usually poly drug, that is, it uses several drugs along with its main addiction which is crack.

3.3. BEHAVIOR AND CONSEQUENCES

When asked about their behavior and the consequences of drug use, a pattern of thefts was observed in order to be able to exchange or buy drugs. Of those who committed thefts to buy drugs, 74.8% were addicted to crack; 65.8% to marijuana and 53.2% to cocaine. There was no statistical significance regarding alcohol.

Of the individuals questioned and who have already been involved with the police, 70.3% were crack users, 64.9% marijuana and 50.8% cocaine users. Alcohol did not show statistical significance.

In the question regarding the association between an accident and a type of drug, there was no statistical significance.

3.4. SEXUAL BEHAVIOR OF STREET RESIDENTS

The study has a sample size of 153 homeless people, of which 45 (29.41%) said they were users of alcohol only and 108 (70.58%) were users of other drugs, including alcohol. Of these 153 individuals, 47 said they had already had homosexual sexual intercourse (30.71%), while 106 (69.28%) said they had never had it ($p<0.05$).

When dealing with the alcoholic population, 17.7% have already had a homosexual relationship, while 82.3% have not had it. In the poly drug population, 36.11% have already had a homosexual relationship and 63.89% have not ($p<0.05$) . Thus, it is possible to affirm that more men have had homosexual relation in the population of poly addicts than in the population of alcohol addicts.

When analyzing the population of poly drug abusers separating those who use crack, 38.02% have already had a homosexual relationship, while 61.98% have not ($p<0.05$). Separating those who use marijuana and who have had a homosexual relationship and those who use cocaine and have already had sex, it was not possible to obtain a relationship with statistical significance. In other words, only the use of crack is related to homosexual practice.

When tracing the profile of this man who has already had a homosexual relationship, it was identified that 68.08% of these men who had had a homosexual relationship were or had been previously married, or lived maritally with someone ($p<0.05$). Among the total number of men in the survey who had previously had a homosexual relationship, 90.69% were now single, 8.51% were married and 2.12% were separated, the latter relationship having no statistical significance. Another aspect that deals with this man is that 80% of these have children and another 20% do not ($p<0.05$).

When this man who had homosexual relations was asked if he used or had used a condom during intercourse (both in homosexual and heterosexual relationships), 63.82% answered yes, while 36.18% answered that they did not or had not ($p<0.05$). And when asked how, 76.59% of those said they sometimes used it, 8.51% they always used it and 14.89% they had never used a condom ($p<0.05$).

When asked if they had ever had an STD, after the researchers explained what STDs are and exemplified by their popular nomenclatures, 48.93% said they had already had an STD and 51.06% they had never had or were unaware ($p<0.05$).

When this population that had already had a homosexual relationship was asked whether before or after their sexual relations (regardless if they were homosexual or heterosexual), they had ingested alcoholic beverages, 10.86% stated that never, 32.60% stated that such a situation happened from time to time and 56.52% stated that they always consumed alcohol before, during or after intercourse. As for illicit drugs, when asked whether the individual used illicit drugs before or after sexual intercourse (regardless if they were homosexual or heterosexual), 29.78% stated that never, 27.65% that sometimes and 42.55% that always. However, these two relationships were not statistically significant.

When this population that had already had a homosexual relationship was asked if they had already had a relationship with someone with a STD, 36.17% said yes, 59.57% said they did not and 4.25% did not want to answer this question ($p<0.05$).

When this population that had already had a homosexual relationship was asked if they had already had a relationship with a sex worker (regardless of sex), 85.10% stated that they had already had one, 12.76% that they had never had one and 4.25% did not want to answer ($p<0.05$).

When this population that had already had a homosex-

ual relationship was asked if they had already had sexual intercourse with drug users, 85.10% said yes and 14.89% said that they did not (P<0.05).

When this population that had already had a homosexual relationship was asked if they had stolen to buy drugs, 59.57% said yes and 40.42% said they had never (p<0.05). Questions were asked if they had already been involved with the police and in accidents, however, such relationships were not statistically significant.

DISCUSION

Most users started their addiction at the average age of 15.12 years of age, therefore, in their adolescence and youth. These data corroborate with the study carried out in Terezina - PI, which shows that 57.1% of the adolescents that were studied had started using drugs between the ages of 14 and 16 years of age[6].

A significant part of the interviewees, (32.6%), reported having started their addiction due to family factors, such as family members who use or are dependent on alcohol or drugs, use of alcohol in family festivities and family conflicts. This relationship is described by Santos (1997) when he mentions that the use of drugs is usually associated with the escape from some reality, seeking in the drugs some type of compensation for the fragility of their family bonds and is also described by Nasser (2001)[7] that considers drinking a family habit that is encouraged and observed since early childhood.

Regarding the pattern of dependency observed in individuals living on the streets, there are two distinct groups, the alcoholic group and the crack users group, who are generally poly drug users.

In the sample used, 79% were dependent on alcohol and 55% were dependent on crack. According to these groups, it is observed that alcoholics were generally not involved in thefts and robberies, as addiction is usually cheap, a situation also described by Varanda and Adorno (2004)[8]. In the group of poly drug abusers, in which the majority of users have crack as their main drug, it was observed that of those who had stolen, to buy drugs, 74.8% were addicted to crack; 65.8% to marijuana and 53.2% to cocaine and also of the individuals questioned, who had already been involved with the police, 70.3% were crack users, 64.9% marijuana and 50.8% cocaine users thus reinforcing what Bordin, Figlie & Laranjeira (2004)9 showed in their work that crack users are more likely to break family ties and to have inappropriate and illicit social activities, such as theft and robbery.

In crack users, there is a greater prevalence in homosexual relations, 36.11%, than in the group of users of alcohol with only 17.7%. These data reinforce what Bordin, Figlie & Laranjeira (2004)9 approach, saying that crack users have a risky sexual behavior, which is also reinforced by the data found, since 76.59% of these men sometimes use condom in their sexual relations and 14.89% never use it and still make sex the currency of exchange for obtaining the drug.

Homosexual practices do not indicate, in most cases, the individual's sexual choice, and this is reinforced by the number of people, 68,8%, who have already lived maritally with someone and reinforced by the cases in which the interviewees have children, 80%, showing that possibly these homeless individuals are very fragile and end up using their bodies, prostituting themselves, for drugs, or for immediate satisfaction, an idea shared by Varanda e Adorno (2004)[8].

This study shows signs that there are two groups among individuals living on the streets. A group consists predominantly of older men, alcoholics and who have little involvement with the police or involvement in illegal activities such as theft or robbery. In addition, this group is probably not in the habit of changing sex to maintain their addiction since he is not in the habit of having homosexual sex.

In the other group, younger, poly drug individuals predominate, whose main drug of use is crack. Such individuals are more involved with the police and seem to look for activities like thefts and robberies as a way to maintain their addiction. It may be that this group has the conduct of using sex as a means of exchange for drugs, as they report practicing homosexual sex.

Further studies are suggested for the characterization of these two groups of homeless people by type of addiction: poly drug addicts and alcoholics. In this sense, a scientific initiation project was sent to the PIBIC / CNPq program, which provides continuity to this work with the title: Social representations of drugs and neuroticism in homeless people: a comparative study between crack and alcohol users.

A limitation of the present study was that we did not ask the crack user if homosexual sex or theft was aimed at obtaining the drug. In focus groups carried out in the same population by Spadoni et al (2014)[10], it was found that such behaviors aim at the acquisition of drugs.

This study is relevant to the formulation of public policies that will include a holistic approach to this population, since these policies must take into account the differences and similarities of the homeless individuals that make up each of these groups thus identifying the conducts, norms and behaviors prescribed by each group, looking for the appropriate language and constructing harm reduction strategies and interventions according to their particularities.

CONCLUSION

The purpose of this work was to study the relationship between sexual conduct and the consumption of alcohol and other drugs in the population living on the streets in Anápolis. For this, we analyzed risk behaviors related to sexually transmitted diseases, specifically sexual activities, the use of alcohol and other drugs in individuals living on the streets in Goiás.

The average onset of addiction found in this study was 15.12 years of age, where 32.6% reported having started

the addiction due to family factors, such as family members who use or are dependent on alcohol or drugs, use of alcohol in family festivities and family conflicts. The pattern of dependence found was of two distinct groups, the group of alcoholics and the group of crack users, with a history of thefts to buy drugs, involvement with the police and homosexual relations.

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ORIGINAL ARTICLE

HYPERTENSIVE SYNDROME IN PREGNANCY: ASSOCIATED RISK FACTORS

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ABSTRACT

Introduction: Gestational hypertensive syndrome has a prominence in the worldwide public health scenario, corresponding to one of the world's leading maternal deaths. Objective: To evaluate risk factors for hypertension in pregnancy. Methods: case control study conducted in 292 pregnant women who underwent cesarean sections from January 2018 to December 2018. Results: The maternal profile was of multiparous pregnant women aged 19-35 years, who underwent prenatal care with a greater number of women, 7 consultations reaching gestational age greater than 37 weeks. Maternal risk factors for hypertensive disease in pregnancy were nulliparity, gestational age less than 37 weeks. Fetal profile: female,>2500 kg, apgar of 1 °>7, apgar of 5 °> 7 and whose destination was joint accommodation. Fetal risk factors: weight> 2500Kg and apgar 1 ° <7. Conclusion: The risk factors for hypertension presented in these studies after multivariate analysis were nulliparity and gestational age <37 weeks for pregnant women and weight> 2500Kg and apgar 1 ° <7 for newborns. The Maternal profile traced was of multiparous pregnant women between 19-35 years old, who had prenatal care with consultations >7, gestational age >37 weeks with single fetuses. Already the neonatal profile was female babies, >2500 kg, apgar 1 ° >7, apgar 5 ° >7 and whose destination was the joint housing.

KEYWORDS: HYPERTENSION. GESTATION. RISK FACTOR.

INTRODUCTION

Pregnancy is a physiological phase that occurs in the life of most women, but in some cases health problems may occur. Gestational hypertension represents a significant importance for the multidisciplinary team, as it addresses one of the most common clinical complications during pregnancy, with higher risk of maternal and fetal mortality[1].

It is known that arterial hypertension is an important factor that can cause maternal and fetal death. Approximately 3% of women have chronic arterial hypertension and 10% of these interfere with the pregnancy[2].

Hypertension in pregnancy is called gestational hypertensive syndrome characterized at levels equal to or greater than 140 mmHg for systolic pressure and 90 mmHg for diastolic pressure. Gestational hypertensive syndrome is classified into chronic hypertension, chronic arterial hypertension, pre-eclampsia and eclampsia[3].

It is defined as the presence of transient arterial hypertension during pregnancy, with inactivity of proteinuria and normalization of blood pressure after the twelfth week of pregnancy, being correlated with recurrence in future pregnancies of these women and with an increased risk in the development of heart diseases.

Gestational hypertension is more conducive to patients with some existing pathological or physiological factors, such as kidney disease, diabetes, multiple pregnancy, obesity, primacy, women over the age of 30, family history with a trail of the disease and black women[4].

There are many problems associated with hypertension in pregnancy; some are caused directly by the clinical situation itself or, at other times, by the result of inadequate therapeutic approaches. For pregnant women, the main complications are: hypertensive encephalopathy, heart failure, severe impairment of renal function, retinal hemorrhage, diseases related to blood clotting and the association with preeclampsia. The fetus is at greater risk of restricted intrauterine growth, premature detachment of the normally inserted placenta, intrauterine suffering and death. The incidence of low birth weight and premature newborns is also greater. All of these incidents end up raising an emergency cesarean section[5].

The objective of this study is to evaluate the risk factors for hypertension during pregnancy and to correlate its behavior in cases in which a cesarean section is performed in the emergency room.

METHODS

A case-control study was carried out by analyzing data from the registration of patients in the operating room,

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performed on women undergoing cesarean sections from January 2018 to December 2018 at the Hospital and maternity Dona Íris, located in Goiânia -GO.

133 patients with hypertension who needed urgent cesarean section and 159 patients who underwent cesarean section with previous indication were analyzed, totaling 292 pregnant women.

The data was typed and manipulated in Excel, for later data treatment using the Windows Statistical Package for Social Science (SPSS) program (version 21.0).

Variables were presented in absolute and percentage values.

The logistic regression analysis was used for the univariate analysis in order to identify the possible risk factors for SHDP. Once identified considering the risk factors, a multivariate analysis was performed to confirm the risk factors.

In the Multivariate analysis, a 95% confidence level was considered, that is, p <0.05 was considered significant.

The ethical aspects were based on Resolution no. 466/2012 and the rights of participants assured. This was approved by the Ethics Committee indicated by Plataforma Brasil. CAEE: 18187819.6.0000.8058.

RESULTS

The study was carried out in women who underwent cesarean section from January 2018 to December 2018. 133 patients with hypertension who needed urgent cesarean section and 159 patients who underwent cesarean section with previous indication were analyzed, totaling 292 pregnant women.

Variable	SHDP (n/%)	Total	OR IC95%	*p*	OR^{A}IC 95%	*p*
Age						
<18	9/69,2	13				
19-35	93/42,3	220				
>36	30/52,6	57	1,06(0,65-1,74)	0,806	-	-
Parity						
NULLIPAROUS	46/85,2	54	10,02(4,52-22,24)	< 0,001	8,41 (3,63-19,53)	< 0,001
MULTIPAROUS	86/36,4	236				
Prenatal						
YES	131/45,8	286	2,53(0,26-24,67)	0,423	-	-
NO	1/25,0	4				
Number of consultations						
<6	60/44,8	134				
>7	72/46,2	156	1,06(0,66-1,68)	0,814	-	-
Gestational Age						
<37	36/78,3	46	5,55(2,6-11,70)	< 0,001	3,66 (1,55 – 8,67)	< 0,001
>37	96/39,3	244				
Number of Fetus						
Single	130/45,3	287				
Twin	2/66,7	3	2,41(0,22-26,94)	0,474	-	-

[A] Adjusted (multivariate analysis).

Table 1 - Distribution of risk factors for SHDP in pregnant women undergoing cesarean sections at Hospital and Maternidade Dona Íris, Goiânia, 2019.

Variable	SHDP (n/%)	Total	OR IC95%	*p*	OR^{A}IC 95%	*p*
Sex						
Female	69/44,2	156				
Male	63/47,0	134	1,12(0,70-1,78)	0,635	-	-
Weight						
>2500	99/39,6	250				
<2500	33/82,5	40	7,19(3,06-16,89)	< 0,001	3,72 (1,31-10,58)	0,014
Apgar 1						
<7	41/71,9	57	3,99(2,12-7,54)	< 0,001	3,72 (1,73 – 7,99)	0,001
>7	91/39,1	233				
Apgar 2						
<7	5/55,6	9	1,52(0,40-5,77)	0,542	-	-
>7	127/45,2	281				
Destination of the NB						
Alcon	113/42,8	264				
Care room/ICU/Death	19/73,1	26	3,6(1,47-8,92)	0,006	0,55 (0,16 – 1,89)	0,345

[A] Adjusted (multivariate analysis).

Table 2 - Distribution of risk factors related to neonatal conditions at birth, children of pregnant women undergoing cesarean sections at Dona Íris Hospital and Maternity, Goiânia, 2019.

DISCUSION

Hypertensive Specific Pregnancy Disease (SHDP) is a major cause of maternal mortality. Arterial hypertension that begins and ends in pregnancy has not yet been fully studied. Costa et al., (2003)[6] believes that its origin is not yet known, despite so many existing studies seeking to unravel this mystery. It is known that there are some defined risk factors, such as the first delivery known as nulliparity. Another risk factor is maternal age; however, some studies deny these factors and reveal that the extremes of the procreation period increase the risks of hypertensive syndromes. Guerreiro et al., (2015) when investigating the prevalence of maternal mortality resulting from SHDP in women hospitalized in a maternity hospital in the state of Pará, in the period from 2009 to 2012, found a profile of pregnant women between 20 and 29 years old (48.5 %), incomplete primary level (39.4%), had stable unions (48.5%), were mulatto (60.6%), housewives (39.4%), death occurred in the puerperium (81.8 %) and also relates SHDP to nulliparity.

Gonçalves et al. (2005)[7], who evaluated 604 medical records of hospitalized women and identified 22, in which the medical diagnosis was SHDP, 45.45% of them were adolescents and 40.90% nulliparous. In 86.36% the pathology occurred after the 20th week of gestation and the main complications that were identified were eclampsia, hypertensive crisis, intrauterine fetal death, neonatal death, chronic fetal distress and prematurity.

The profile found in this study was of pregnant women between 19-35 years old, multiparous, who underwent prenatal care with a greater number of 7 consultations and who reached a gestational age greater than 37 weeks with single fetuses.

These studies corroborate the research that traced nulliparity and gestational age under 37 weeks as maternal risk factors for hypertensive disease.

For Moura et al., (2010)[8] other predominant risk factors are: low education, low family income, personal and family history of chronic hypertension, hypercaloric, hypoproteic and hypersodium diet.

Assis et al., (2008)[3] conducted a study carried out at the Hospital das Clínicas of the Federal University of Goiás (HC-UFG), in 2005. It demonstrated that, among the 890 deliveries at the Maternity Hospital of HC-UFG,129 pregnant women were diagnosed with Syndrome Hypertensive in Pregnancy with obesity being a risk factor for pre-eclampsia. Age over 30 years was a protective factor for pre-eclampsia.

Normally women present edema during pregnancy and for Páscoa et al., (2012)[9] this isolated event should not be considered as a diagnosis of pre-eclampsia, it is known that edema is an inherent consequence of pregnancy.

For Amaral e Peraçoli (2011)10 the assistance should be focused on preventing the disease from getting worse and thus reducing maternal death.

The fetal profile of this study was of female newborns, weighing >2.5 kg, apgar 1 >7 and 5 >7 and who were referred to joint accommodation. The fetal risk factors of mothers with SHDP were newborns weighing less than 2.5 kg and having an apgar of less than [7]. Ferrão et al., (2006)[11] reviewed 200 medical records of pregnant women with hypertensive syndrome during pregnancy and found, as fetal repercussions in this group, lower weight of newborns and lower Apgar score when compared to the control group.

However, Chaim et al., (2008)[1], when analyzing studies on newborns, 93.4% were live births, 81% had a weight > 2,500g, 10.6% were premature, 68.1% suitable for gestational age, Apgar 1 and 5 minutes > 7 in 84.0% and 99.2%, respectively.

Araújo et al., (2017)[12] present as risk factors for SHG overweight (n = 1408, 75.4%), first pregnancy (n = 827, 44.3%) and multiparity (n = 686, 36.7%). Regarding the state of the fetus, 30.9% (n = 576) were premature.

Hypertensive syndromes during pregnancy for Oliveira et al., (2006)[13] increase the risk of unfavorable perinatal outcome (SGA, low Apgar in the 1st and 5th minutes, neonatal infection, MAS, prematurity and RDS). Among gestational hypertensive syndromes, special attention should be paid to preeclampsia or specific hypertensive pregnancy disease that occurs as an isolated form or associated with chronic arterial hypertension, as they are linked to the worst maternal and perinatal outcomes. Moura et al., (2011)[8] believes adequate prenatal control with strict monitoring of the pregnant woman is the only way to reduce maternal and perinatal mortality. The use of an image resource such as Doppler velocimetry allows the examiner to diagnose placental insufficiency and to assess maternal-fetal circulatory conditions in a safe and non-invasive manner.

CONCLUSION

The maternal profile traced was pregnant women between 19-35 years old, multiparous, who had prenatal care with a number of consultations >7, gestational age >37 weeks with single fetuses. The neonatal profile, on the other hand, was of female babies, > 2.5 kg, apgar 1 > 7, apgar 5 > 7 and who were referred to joint accommodation.

The risk factors for hypertension presented in this study after multivariate analysis were nulliparity and gestational age <37 weeks for pregnant women.

The risk factors for the newborn were weight > 2.5 kg and apgar 1 < 7 for neonates.

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MAMMARY SARCOMA - MALIGNANT PHYLLODES TUMOR - CASE REPORT

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ABSTRACT
This article reports a case of a 49-year-old female patient with a large, low-grade malignant phylloid tumor. It is a rare type of breast sarcoma that has presented satisfactory evolution with surgical treatment without the need for chemotherapy.

KEYWORDS: PHYLOID TUMOR, SARCOMA.

INTRODUCTION

Breast sarcomas constitute a histopathologically heterogeneous group, which arise from the connective tissue of the breast. They may develop primarily in the breast or after breast radiotherapy or, still, related to lymphedema of the upper limb/breast, resulting from the treatment of another malignant neoplasia.[1]

The most common type after previous breast therapy is the angiosarcoma.

In the group of sarcomas of the breast we can find the phyllodes tumor. More frequent in patients between 30 and 50 years old, it may or may not be associated with fibroadenomas.[2]

Despite the infrequent presentation in the breast, there are reports of cases of primary lymphomas, melanomas and breast metastases of tumors coming from other organs.

The Phyllodes Tumor, also known as cystossarcoma phyllodes, is rare, more common in black people and benign in 80% of cases. More frequent in patients that are between 30 and 50 years old, and may be associated with fibroadenomas. It presents as a single, encapsulated, bulky, multinodular, lobulated, painless, with rapid growth and fibroelastic consistency.

Histologically they are similar to fibroadenomas, with epithelial and stromal elements, however, hypercellular. They can be classified as benign, borderline or malignant, based on stroma hypercellularity, margin, mitotic index and cell pleomorphism.

The diagnosis is mainly clinical due to the advantageous dimensions typical of the tumor. Ultrasonography shows large tumors, usually with cystic areas inside. Needle biopsy is poorly applicable due to the false negative index, with surgical excision being preferred.

CASE REPORT:

ACMO, 49, menarche at 11, nulliparous, pre-menopausal with regular cycles. She denies smoking and drinking. Denies family history of breast cancer. Lupus carrier. On physical examination: Right breast tumor measuring 15x14 cm (Figure 1). Mobile axillary lymph nodes. Core Biopsy and right mastectomy with sentinel lymph node were performed. Pathological anatomy showed malignant Phyllodes Tumor and free armpits (Figure 2). There was no need for chemo or radiation therapy.

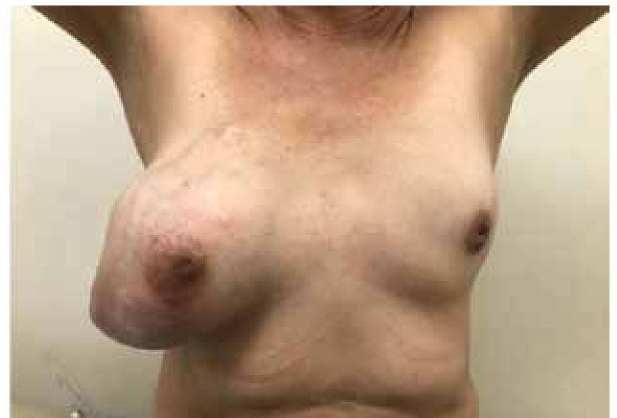

Figure 1. Malignant phyllodes tumor. Large tumor occupying the entire right breast.

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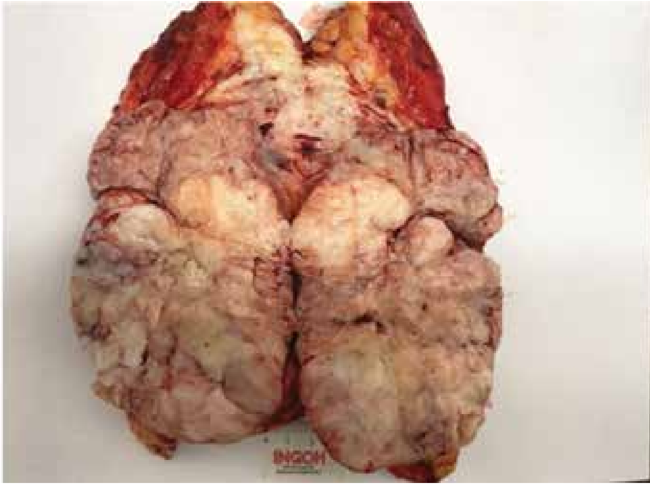

Figure 2. Malignant phyllodes tumor in the right breast. Macroscopic aspect of the lesion.

DISCUSSION

It is a tumor of predominantly clinical diagnosis and eminently surgical treatment. Its subdivisions aim to classify the prognosis and, therefore, the surgical approach to be taken to prevent/minimize recurrences. Post-surgical recurrences occur in 16% to 43% of cases of conservative surgery. Its drainage is hematogenous with low axillary involvement, so there is no need for ganglionic emptying of the axilla. It has low response to radiotherapy. Chemotherapy is rarely indicated and, due to its low positivity of hormone receptors, hormone therapy is also not indicated.[3]

FINAL CONSIDERATIONS

Surgery is the procedure of choice in the treatment of sarcomas, when the intention is curative. Mastectomy is necessary for large tumors and/or that appear in previously irradiated areas.

Adjuvant chemotherapy must be evaluated individually, taking into account the patient's clinical conditions, age, toxicity to previous therapies, comorbidities and, mainly, histological type sensitivity to chemotherapeutic agents.[4]

In the case of metastatic disease, the use of palliative chemotherapy follows the same protocols used for soft tissue sarcomas in general.

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METACHRONIC BILATERAL GRANULOMATOUS LOBULAR MASTITIS

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ABSTRACT
Granulomatous lobular mastitis is a benign inflammatory disease of the breast of uncertain etiology and recurrent chronic evolution. The present report shows the evolution of a 41-year-old patient who underwent clinical and surgical treatment after recurrence in a contralateral breast, showing a satisfactory evolution after the use of antibiotics and corticotherapy.

KEYWORDS: LOBULAR GRANULOMATOUS MASTITIS, MASTITIS, INFLAMMATION, BENIGN.

INTRODUCTION

Granulomatous mastitis is an idiopathic inflammation, characterized by a chronic granulomatous reaction composed of epithelioid cells, multinucleated giant cells of the foreign body and Langerhans types. It is characterized by non-caseating granulomas and microabscesses confined to the breast lobe, manifesting itself in a firm, hardened mass with multiple or recurrent abscesses. [1]

It is a rare breast condition of unknown origin. It mainly affects young women and frequently with recent lactation. It presents as a palpable, ill-defined, hardened nodule of variable size and location, usually unilateral, simulating carcinoma.[2]

Mammography and ultrasound are important for the differential diagnosis. Needle punctures are inconclusive and the definitive diagnosis is made by the histology of the surgical specimen.

CASE REPORT

FCV patient, 41 years old, G2P2, in July 2014 was diagnosed with Granulomatous Mastitis in the right breast, having undergone clinical and surgical treatment with complete resolution.

In April 2019, she had a recurrence in the contralateral breast, reddish skin, presenting a large tumor in the left breast LIQ, hardened and very painful.

The mammography and ultrasound exams showed a large tumor in the LIQ of the left breast without defined characteristics. Fine needle biopsy performed with diagnosis of inflammatory process.

The patient underwent surgical excision of the lesion with evidence of granulomatous mastitis in freezing and later confirmed by the pathologist, showing a chronic inflammatory process aggravated with non-caseous granuloma.

In the same surgery, breast reconstruction using regional flaps was performed. At the same time, she underwent treatment with antibiotics and corticosteroids.

Figure 1. 41-year-old patient with a hard and painful tumor with hyperemia in the left breast.

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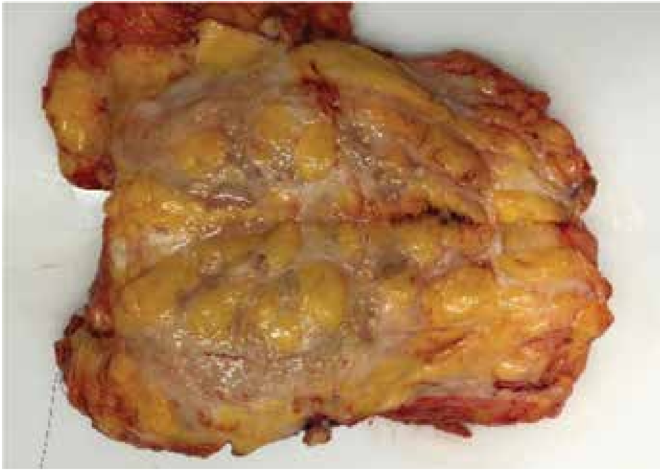

Figure 2. Left breast. Surgical specimen.

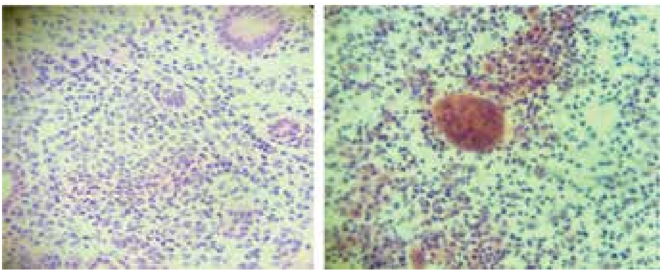

Figure 3. Microscopic aspect of granulomatous mastitis. Chronic inflammatory process aggravated with non-caseous granuloma.

DISCUSSION

Granulomatous lobular mastitis is a benign inflammatory disease, of uncertain etiology. An autoimmune mechanism has been proposed based on its similarity to orchitis and granulomatous thyroiditis. Histologically it is characterized by a chronic granulomatous reaction, composed of epithelioid cells, multinucleated giant cells of Langhans and foreign body types.[3]

It usually presents with breast tumor and lymphadenopathy in young women, and it is often confused with carcinoma. The differential diagnosis is with acute mastitis, tuberculosis, sarcoidosis, fatty necrosis and ductal ectasia.

The present report shows a case of chronic granulomatous mastitis that relapsed in the left breast, 5 years after treatment in the contralateral breast, which is why it is called metachronic.[4]

It is a difficult diagnosis, usually confirmed only with pathological examination. Treatment generally consists of major surgical resections associated with antibiotic therapy and prolonged corticosteroid therapy with regressive doses.

The preferential treatment is made with pednisolone 40 mg per day, for four weeks, with weekly regressive doses, associated or not, with doxycycline 100 mg 12/12 h for 10 days or tetracycline 500 mg every 6 hours for two to four weeks.

Ample surgical resections can eventually be done in the persistence of large tumors and breast deformities.

FINAL CONSIDERATIONS:

Some patients report painful hypersensitivity at the site of the tumor mass and the overlying skin is sometimes ulcerated.[5] Young women are most often affected. Hyperprolactinemia associated with granulomatous lobular mastitis has recently been reported, but this association has not been well documented, and the role of prolactin in the etiology of mastitis is unclear. Other predisposing factors include α1 antitrypsin deficiency, Wegener's granulomatosis and the presence of corynebacterium.[6]

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CASE REPORT

ANGIOPLASTY USING ROTATIONAL ATHERECTOMY IN A PATIENT WITH SEVERE AORTIC STENOSIS FOLLOWED BY PERCUTANEOUS AORTIC VALVE IMPLANTATION

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ABSTRACT

The percutaneous transcatheter implantation of the aortic valve (TAVI) is an option in cases of severe aortic stenosis. There are many situations that can hinder the TAVI procedure, such as the presence of adjacent coronary artery disease (CAD). CAD may present with calcifications, which makes the hemodynamics team's approach even more difficult. We describe a case of a previously hypertensive, diabetic octogenarian patient with a prostate cancer with urethral stenosis, chronic non-dialysis kidney disease, paroxysmal atrial fibrillation, heart failure and multivessel CAD with calcifications. Due to the significant surgical risk, it was decided, after a decision by the Heart Team, to perform coronary angioplasty followed by TAVI, and all procedures were successful.

KEYWORDS: HEART VALVE PROSTHESIS; HEART VALVE PROSTHESIS IMPLANTATION; HEMODYNAMICS.

INTRODUCTION

Coronary artery disease (CAD) and aortic valve stenosis (AS) are often coexisting in elderly patients. Both diseases share many common risk factors, such as age, sex, hypercholesterolemia, hypertension and diabetes mellitus. The fact that both diseases also occur independently of each other suggests that additional parameters, such as unfavorable genetics, may play a considerable role in the pathogenesis [1].

There is a consensus of experts that patients with primary indication for aortic valve surgery and concomitant stenosis of the coronary artery diameter ≥50% to 70% should be considered for additional myocardial revascularization graft at the time of surgical aortic valve replacement (SAVR). However, combined SAVR and myocardial revascularization present a greater risk than isolated SAVR. Vice versa, late SAVR after myocardial revascularization is also associated with a significantly increased risk, so it is a common consensus to treat both diseases simultaneously to avoid repeated sternotomy [1].

In order to avoid such risks, the discussion in the Heart Team about the possibility of percutaneous approach of coronary lesions and AS by transcatheter aortic valve implantation (TAVI) can be an option, in complex and significant risk cases, this being the objective of the present report.

CASE REPORT

Clinical history: Male patient, 86 years old, hypertensive, suffering from prostate cancer with urethral stenosis, chronic non-dialysis kidney disease, paroxysmal atrial fibrillation with CHADSVASC 3 and HAS-BLED 3, heart failure with reduced ejection fraction and major aortic stenosis, was admitted to the hospital with dyspnea at minimal effort, functional class New York Heart Association (NYHA) III. The anatomy was evaluated by angiotomography of coronary, aorta and iliac arteries, which showed a calcified aortic valve with a calcium score of 4810 (figures 1A and 1B), with favorable anatomy, without significant intraluminal reduction in the aortoiliac path. Preoperative cinecoronariography was performed, which presented important CAD and with a multivessel pattern (figure 2A, 2B, 2C). After discussing the case with the Heart Team, angioplasty was chosen followed by TAVI. This case report was approved by the Research Ethics Committee of the Hospital de Urgências de Goiânia, linked to Plataforma Brasil, under CAAE: 94882318.7.0000.0033.

Angiographies: Cinecoronarioangiography was performed on 02/21/19, which showed a right coronary artery (RCA) with a 95% lesion in the proximal third involving the lateral branch (bifurcation), and another 95% in the distal third (figure 2C). Moderately important poste-

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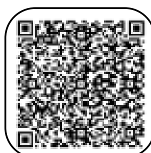

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rior descending artery (PD) forks early and presents a localized lesion of 90% at the origin. Left coronary trunk (LCT) with calcifications. Anterior descending artery bypasses the cardiac apex and irrigates the distal third of the posterior interventricular septum, with calcifications and a 60% lesion in the proximal to the middle third (figure 2B). First diagonal branch of great importance presents calcifications and 90% lesion at the origin. First left marginal branch with calcifications and 95% lesion in the proximal third. Left posterior ventricular branch of moderate importance, with an 80% lesion in the proximal third (Figure 2A). Other arteries without significant lesions. Calcified aortic valve. Left ventricular aorta gradient of 40 mmHg.

Interventions: The first attempt of angioplasty on 03/01/19 was unsuccessful because balloons were unable to pass due to the injury. The first stage of angioplasty was then programmed and performed on 03/06/19 via the right femoral artery, being submitted to rotational atherectomy - Rotablator® (figure 3A) followed by right coronary angioplasty, posterior descending and right posterior ventricular implant with three drug-eluting stents (figure 3B), 120mL of contrast was used in this step. During the procedure, he presented significant bleeding at the puncture site contained by means of a compressive dressing. In the second stage, on 04/03/19, lesions in the left posterior ventricle, circumflex and first left marginal branch were treated with the implantation of three drug-eluting stents (figure 3C), without vascular or hemorrhagic complications. On 07/02/2019, he underwent TAVI with a 26 mm Sapien S3 prosthesis implant, without clinical or angiographic complications (figure 4A). After implantation, a single post-dilation was performed, with absence of valve leak (figure 4B). TAVI procedure was performed with sedation (with the aid of the Bispectral Index - BIS) and local anesthesia, 2 ProGlides for hemostasis were used, and in total about 100mL of contrast was used. After the procedure, it was decided to keep a transvenous pacemaker due to bradycardia, which was removed after 24 hours of the procedure with heart rate normalization. Final gradients of 6 mmHg peak and 3 mmHg medium.

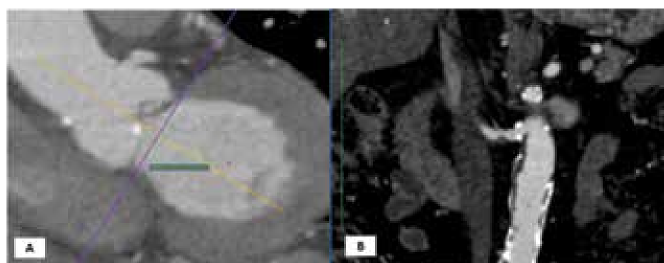

Figure 1. Angiotomography. A: evaluation of the anatomy of the aortic valve (calcified) and coronary arteries by coronary angiotomography; B: angiotomography of the aorta and iliac arteries.

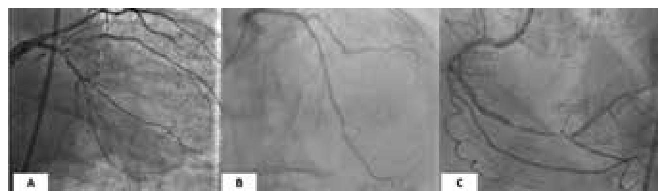

Figure 2. Cinecoronarioangiographies. A: First left marginal branch with calcifications and 95% lesion in the proximal third. Left posterior ventricular branch of moderate importance, with an 80% lesion in the proximal third; B: Anterior descending artery around the cardiac apex and irrigating the distal third of the posterior interventricular septum, with calcifications and a 60% lesion in the proximal to the middle third; C: Right coronary artery (RCA) with a 95% lesion in the proximal third involving the lateral branch (bifurcation), and another 95% in the distal third.

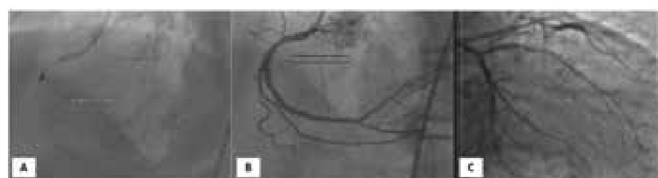

Figure 3. Coronary angioplasty. A: Right femoral angioplasty with the aid of rotational atherectomy; B: Right coronary angioplasty, posterior descending and right posterior ventricular with implantation of three drug-eluting stents; C: approach of lesions in the left posterior ventricular arteries, circumflex and first left marginal branches with the implantation of three drug-eluting stents.

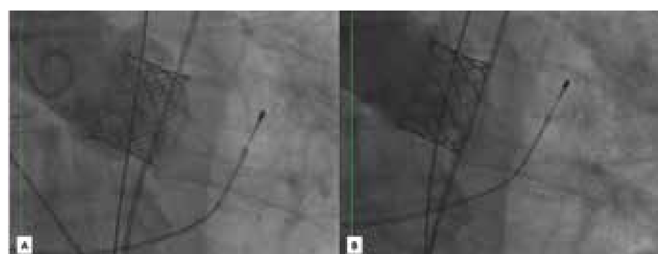

Figure 4. TAVI procedure. A: Sapien S3 26 mm prosthesis implant; B: Absence of valve leak.

DISCUSSION

The main signs and symptoms of AS are syncope, angina and heart failure, the latter being the criteria that most relates to the severity of the case, giving survival of less than two years in 50% of patients. The main indication for valve intervention is the presence of any of the symptoms described above and when deciding the best approach, factors such as age, frailty indexes, risk scores (STS score) and patient's desire must be considered [2, 3].

As for quantitative criteria, the patient has all AS definers according to the Brazilian Cardiology Directive in its last valvulopathies update, that is to say, it had a valve

area less than 1 cm^2, a jet velocity greater than 4 cm/s and a medium gradient between aorta and left ventricle greater than 40 mmHg, in addition to these, it had an ejection fraction of less than 50%, considered an aggravating factor [2, 3].

The aforementioned patient had class IA indication for conventional cardiac surgery due to surgical risk calculated by the intermediate STS score (5.98%) and presence of coronary lesion with a multivessel pattern. In discussion with the Heart Team, percutaneous coronary treatment and TAVI were proposed considering criteria such as senility, high EUROSCORE II (8.68%) and the patient's desire. Noteworthy, the isolated indication for TAVI would be class IIA, however, considering the coronary lesions, we did not find clear indications foreseen in the literature (combined approaches) [2].

The consideration of TAVI as a proposed treatment was listed after discussing the case with the patient and in light of the new studies in intermediate-risk patients, which demonstrated non-inferiority in relation to surgery in this population [4,5]. During the discussion of the case, the coronary treatment was listed and the hemodynamics team suggested treatment of the coronary lesions prior to the performance of the valve intervention due to factors such as procedure time, amount of contrast used and complexity of the coronary anatomy [1].

The initial schedule consisted of two coronary approaches spaced 20 to 30 days apart, followed by a third approach to perform TAVI. Between these periods, the patient would be discharged from hospital depending on the clinical possibility. During the first angioplasty, the procedure was considered unsuccessful due to the difficulty of interposing the lesion using usual techniques. Due to the fact, the hemodynamics team proposed the maintenance of two coronary interventions, however, using Rotablator® as a preparation for coronary angioplasties. The two approaches with such programming were successful as shown in figure 3.

During the first approach, the patient presented moderate bleeding from the puncture site as a complication and after discussion by the team, it was decided to maintain only double anti-aggregation despite the knowledge of paroxysmal atrial fibrillation and formal indication for anticoagulation [6]. After the therapeutic modification, there were no further hemorrhagic complications.

In the third stage, the patient underwent TAVI without intra-procedure complications; however, in the postoperative period he developed sinus bradycardia and dependence on a temporary pacemaker for about 24 hours. He was discharged in functional class II according to NYHA, without vascular, hemorrhagic or renal complications after four days of hospitalization. After completion of the procedures, it was decided to return to anticoagulation with rivaroxaban and mono anti-aggregation with clopidogrel without reports of bleeding after four months of follow-up.

CONCLUSION

According to the case presented here, percutaneous coronary treatment associated with TAVI may be a viable strategy in the treatment of selected patients, even in the presence of unfavorable coronary anatomy.

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BOXER'S FRACTURE: AN EXPERIENCE REPORT

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ABSTRACT
Objective: To report a case of neck fracture of the 5th metacarpal treated conservatively with plaster in the shape of a boxing glove and to analyze the clinical result with the proposed treatment. Materials and Methods: Patient with pain in his right hand after delivering a punch. Radiographs were taken and a fracture of the neck of the 5th metacarpal was diagnosed. As treatment, fracture reduction was performed by means of the Jahss maneuver and then immobilization was made with plaster in the shape of a boxing glove. Results: After 12 weeks, the patient was asymptomatic, with restored range of motion and strength, comparable to the contralateral side. Conclusions: Boxer's fracture does not tolerate rotational deviations, but with angular deformities of 30° to 45°, shortening up to 5 mm, it can be treated non-surgically and present an adequate functional outcome.

KEYWORDS: FRACTURE, METACARPAL, ORTHOPEDICS, HAND, BOXER

INTRODUCTION

Fracture of the neck of the fifth metacarpal is also known as fracture of the boxer. Its trauma mechanism is almost always the result of a direct collision of the closed hand against a rigid surface, resulting in a fracture with a dorsal apex[1]. It represents about 5% of upper limb fractures and 20% of hand fractures[1]. Boxer fractures occur predominantly in the dominant hand of young male adults and can be associated with anxiety disorders, impulsive personality and alcohol consumption. The volar angulation of the neck of the intact metacarpal is about 15 degrees[1] and the action of the intrinsic and extrinsic muscles predisposes to angular deformity in fracture flexion[1].

Its diagnosis is made by hand X-ray in AP and Oblique profile views. Hand ultrasound can also be used to assess the angular deviation of these fractures.[2]

The treatment of boxer's fracture usually depends on the degree of angulation and rotation of the metacarpal head. It is described in the literature that the fracture of the neck of the fifth metacarpal with angular deformities of up to 45° can be treated non-surgically and present an adequate functional outcome.[2] The fracture is reduced by means of the Jahss maneuver.

Conservative treatment options can be divided into methods that involve immobilization and functional treatment methods that do not restrict movement. Treatment options include: plastered ante-brachio digital immobilization in the James safety position (POSI), ulnar plaster cast immobilization, soft wrap and buddy taping between the ring and little fingers, elastic or compressive bandage at the level of the metacarpophalangeal joint, functional brace with 3 supports and no use of immobilization (full dynamic treatment). The duration of immobilization varies in the literature, but it should occur during the first 3 to 5 weeks and some authors recommend that there is no need to wait for radiographic consolidation to remove the immobilization, as well as in phalanx fractures. We can cite complications of conservative treatment, superficial infection, sensory deficit and cold intolerance. However, the complication rate is minimal.

Surgical treatment is indicated for patients with open fractures, severe soft tissue injury, multiple fractures of the hand and wrist, fracture with intra-articular extension, rotational deviation and pseudo-bar. Classically, angular deviations of up to 45 degrees and shortening of up to 5 mm are accepted, with no tolerance for rotational deviations.

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The selection of the best treatment for this fracture must be individualized and depends on other parameters (in addition to the fracture deviation and morphology), such as age, profession, leisure and daily activities, comorbidities, cooperation and the patient's functional demand and experience and skill of the surgeon.

The main methods of fixation of the fractures of the neck of the fifth metacarpal are: interlocked antegrade Kirschner wires, crossed wires, transverse wires anchored in the fourth metacarpal, intramedullary nails, interfragmentary plate and screws and external fixator.

CASE REPORT

Patient, S.P.M, 44 years old, male, night watchman, right-handed, arrived at the emergency room with severe pain in his right hand, edema + 1/+4, deformity in the 5th metacarpal region, absence of skin lesions or neurovascular deficit.

He said that he got into a fight and punched someone in the face. Radiographs of the right hand were taken in anteroposterior, oblique and lateral views, and a fracture of the neck of the 5th metacarpal of the right hand was diagnosed (Figure 1). The fracture was reduced by means of the Jahss maneuver and then immobilized with a plastered glove on a closed fist, shaped like a boxing glove (Figure 2).

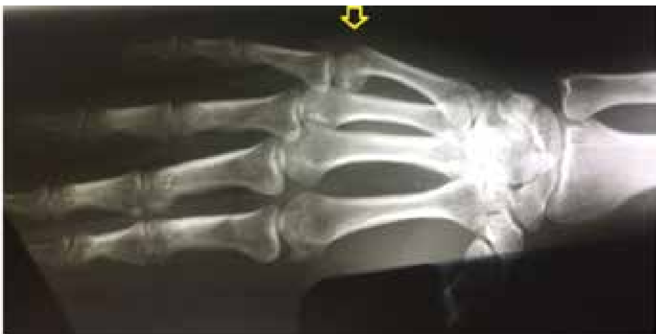

Figure 1 - Anteroposterior X-ray of the hand.

Figure 2 - Plaster cast immobilization in boxing glove.

After 1 week of immobilization, a new x-ray was requested, showing that the reduction had been maintained; the patient had no complaints of pain and was instructed to return in 7 days for a new evaluation. After 2 weeks of fracture and plastered immobilization, the reduction was still adequate; the patient was therefore instructed to return in 15 days. After 4 weeks of immobilization, the reduction continued to be maintained and on the x-ray it was already possible to see bone callus formation (Figure 3).

Figure 3 - X-ray of the hand in plastered immobilization.

After 6 weeks of immobilization, the plastered glove was removed and 10 physiotherapy sessions were prescribed. After 8 weeks of fracture and having undergone 10 physiotherapy sessions, the patient had no pain complaints, no edema, preserved neurovascular, with 80% strength gain, 100% wrist flexion and 70% finger extension. Another 20 physiotherapy sessions were prescribed. After 12 weeks of the fracture, the patient was asymptomatic, with restored range of motion and strength, comparable to the contralateral side.

DISCUSSION

Boxer's fracture does not tolerate rotational deviations, but with angular deformities of 30° to 45 °, shortening up to 5 mm, it can be treated non-surgically and present an adequate functional outcome. The different methods of conservative treatment for fracture of the neck of the fifth metacarpal are limited in methodological quality and sample size, therefore, no method of conservative treatment can be considered superior to the others regarding the functional outcome. It is concluded that there is a lack of adequate studies to solve this clinical doubt. The conservative treatment technique adopted in the patient in this study proved to be satisfactory.

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PROLONGED GESTATIONAL GIGANTOMASTIA - LITERATURE REVIEW AND CASE REPORT

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ABSTRACT

Breast hypertrophy or gigantomastia is a rare condition with few reports in the literature, limiting the search for references on the subject. Of the various conditions that can lead to excessive breast enlargement, during pregnancy it may be related to the exaggerated response of breast receptors to pregnancy hormones. Due to the few reports, there is no established epidemiology, therefore without a standard. Symptoms range from pain to breast necrosis and even skeletal and muscle impairment. The authors report a prolonged gestational gynecomastia and late treatment with good evolution after reduction mammoplasty.

KEYWORDS: GESTATIONAL BREAST HYPERTROPHY. GIGANTOMASTIA. BENIGN BREAST

INTRODUCTION

Breast hypertrophy or gigantomastia is a rare condition that consists of excessive and disproportionate enlargement of the single or bilateral breast. It can occur during adolescence, in the pregnancy-puerperal cycle or drug-induced. Juvenile gigantomastia occurs between 11-19 years, of family character, and it is related to hormonal disorder and a marked response of estrogen receptors. In these cases, some authors recommend treatment with anti-estrogenic drugs in the postoperative period after a reduction mammoplasty, but without proven success [1].

It is believed that Tamoxifen 10-20 mg may have good results in this situation. When induced by drugs, it can occur in any age group and it originates from the use of drugs already known as: indinavir, d-penicillamine and cyclosporins. The conduct is to stop using the medication and assess the need for surgical treatment [2].

Gestational hypertrophy is more rare than juvenile with an estimated case for every 28,000-118,000 pregnancies, it occurs during the gestational period and the puerperium with a breast enlargement of 10 to 20 times, when the normal enlargement in the pregnancy period is approximately twice the usual size. Its etiology is unknown, but it has been associated with hormonal changes that occur during this period [3].

The exaggerated enlargement of the breasts leads to distension of the skin and parenchyma that culminate in areas of ischemia, necrosis, infections and hemorrhages. In addition, there are other disorders such as neck pain, difficulty to walk, balance and even breathe.

It is more common in the first pregnancy and there is a high chance of recurrence in subsequent pregnancies. Its diagnosis is clinical and often retrospective. Imaging exams show an overall enlargement of the breast parenchyma. Differential diagnosis should be made with malignant breast neoplasms and fibroepithelial tumors [4].

CASE REPORT

FFR, black, 40 years old, G4P1n2c A0, healthy and without addictions; she came to the mastology outpatient clinic in March 2020 in Goiânia-GO, referring to excessive breast enlargement during the last pregnancy 4 years ago. There was no case in previous pregnancies.

She exclusively breastfed for 6 months and, after stopping breastfeeding, she presented sporadic episo-

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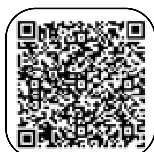

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des of galactorrhea. Patient reported partial regression of breast volume during the puerperium. Patient started investigation of breast hypertrophy when symptoms appeared but was unable to follow up. Patient reported pain, altered physical posture and psychosocial impairment.

At the time of consultation, the breasts were grossly symmetrical, bulky, and pendulous, without bulging or visible retractions, mainly periareolar bilateral streaks (FIGURE 1). There was no lymph node enlargement. Swollen breasts, with the possibility of palpation of tumors in both breasts suggesting galactocele. Negative nipple expression without trigger points.

During clinical investigation, she presented spontaneous drainage of a galactocele in the right breast, leading to partial volume reduction. After imaging tests and subsequent assessments of disease progression, 1 mg/week cabergoline was prescribed. Two doses were performed and then submitted to a reduction mammoplasty with implantation of the nipple-areola complex with good response and evolution. (FIGURE 2)

Figure 1. 40-year-old patient with bilateral breast hypertrophy during the last pregnancy and puerperium.

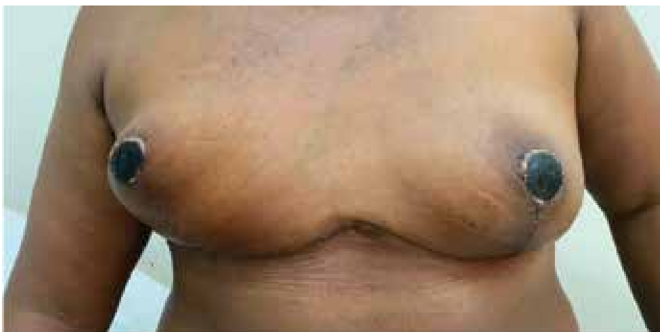

Figure 2. Aesthetic result after 30 days of bilateral reduction mammoplasty with implantation of nipple-areolo complex.

DISCUSSION

Gestational breast hypertrophy or gigantomastia is a rare condition that can have a major impact on a woman's life. It is believed that there is hypersensitivity of the breast tissues or excessive increase in hormones leading to glandular hyperstimulation. The increase in hormones can affect fetal development and cause neonatal gynecomastia, with no obstetric indication for early termination of pregnancy [5].

The patient affected by this pathology usually complains of mastalgia, respiratory distress in the supine position, low back pain and neck pain in addition to, in more advanced cases, ulcerations and infection of the breasts. Upon examination, the breasts are swollen, with venous congestion and possible skin ulcerations and cellulite. Patients are also shown to be psychologically committed to depression and social isolation [6].

There are no known protective factors and conservative treatment is not yet effective. The regression of the breast volume in the puerperium is mostly partial and, therefore, early treatment is indicated. Reduction mammoplasty is still the most effective way to resolve the disease and has an immediate impact on the patient's quality of life.

Non-surgical treatment includes Cabergoline 0.5 mg, twice a week, which is a dopamine agonist, which inhibits lactogenesis, decreasing pain and glandular swelling. Bromocriptine (dose 5-7.5 mg/day) can also be used, a partial dopamine agonist, but less accessible and with more adverse effects. Common analgesics are associated with pain relief. In cases of necrosis or ulceration, collagen or hydrocolloid plaques can be applied [7].

The elevation of the breasts mechanically, with bras or breast supports, reduces the effect caused by weight. The conservative way in the management of the disease is not the most indicated since, even though the breasts have high chances of reducing the volume after pregnancy, there is no total reduction and still presents great chances of recurrences in future pregnancies.

FINAL CONSIDERATIONS

Surgical treatment can be performed in association with conservative therapy or alone. Reduction mammoplasty is the technique of choice, preserving aesthetics, sensitivity, contour, pigmentation and nipple erection. Mastectomy should be indicated in extreme cases, with large volumes, associated with extensive areas of necrosis.

In the reported case, treatment with cabergoline associated with reduction mammoplasty was performed with implantation of the nipple-areolo complex obtaining good surgical response and adequate evolution.

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MCCUNE ALBRIGHT: A CASE REPORT

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ABSTRACT

Objective: To report a case of proximal femur fracture in a 13-year-old patient with Mccune Albright Syndrome - a rare syndrome - and to analyze the clinical outcome with surgical treatment. Materials and Methods: Patient with pain and limited movement after fracture in the right proximal femur due to pathological fracture. Radiographs and diagnoses of subtrochanteric fracture were performed on the right side. As the treatment was performed with open fracture reduction and extra-medullary tutor block with a 95-degree slide, better known as DCS. Results: After 1 month, the patient was asymptomatic, with range of motion and strength restored, comparable to the contralateral side. Conclusions: As it is a fibrous bone displasia, a fracture of the femur becomes a challenge for orthopedic treatment, as demonstrated. Nevertheless, good results are detected when treatment is individualized.

KEYWORDS: FRACTURE, SYNDROME, MACCUNEALBRIGH, ORTHOPEDICS

INTRODUCTION

Poliostotic fibrous dysplasia - a benign bone disorder with a wide spectrum of presentation - when associated with cutaneous café au lait macules and hyperfunctional endocrinopathies, such as precocious puberty and hyperthyroidism, the triad is called McCune Albright Syndrome. The syndrome is a genetic disease caused by somatic mutations in the post-zygotic gene GNAS1. The diagnosis is predominantly clinical and treatment consists of drugs such as bisphosphonate and surgery if necessary. All endocrinopathies must be treated. The estimated prevalence varies between 1/100,000 and 1/1,000,000 [1]. Its repercussions in relation to the musculoskeletal system are mostly multiple fractures resulting from low energy trauma, due to the great fragility presented by the bone of individuals affected by this syndrome. Thus, the patient often presents pathological fractures, better known for being fractures caused by low-energy trauma that would not normally result in fractures [2].

CASE REPORT

Female patient, 13 years old, attended at a tertiary emergency hospital in the city of Anápolis, diagnosed with McCune Albright Syndrome after investigation of precocious puberty with vaginal bleeding at 3 months and pubic hair at 5 months of life. She had had 13 lower limb fractures, has a left ovary cyst and irregular menstrual cycle. On physical examination, she had café au lait spots and hypertrichosis. She sought medical treatment due to a fractured right femoral neck while walking at home. The radiography confirmed a fracture in the subtrochanteric region of the patient's right femur (figure 01).

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Figure 1 – A. Anteroposterior x-ray of the thigh, showing subtrochanteric fracture. B. Café au lait spots on the patient's skin.

DISCUSSION

MacCune Albright is a highly complex syndrome with several associated signs and symptoms, which makes the clinical picture quite variable. It is the result of a mosaic-type mutation that occurs early in the embryonic stage. Pathophysiology is based on an activating mutation of the gene for the Gs protein subunit, which stimulates the intracellular production of cAMP, conferring autonomous secretion of endocrine, gonadal, thyroid and adrenal tissues. This activating mutation of the Gs protein is also demonstrated in café au lait skin lesions and bone lesions of fibrous dysplasia. Endocrinopathies linked to the syndrome include precocious puberty, hyperthyroidism, diabetes mellitus, acromegaly, Cushing's syndrome, hyperparathyroidism, hyperprolactinemia and gynecomastia [3]. Although precocious puberty is the most frequent clinical manifestation, it is the bone changes that confer the greatest morbidity to the syndrome [4]. Therefore, attention should be paid to the preventive treatment of injuries with the use of bisphosphonates such as that established for the patient in question. This medication aims to reduce the causes of fibrous bone dysplasia, characterized by proliferations of spindle-shaped fibroblasts interspersed with trabeculae of immature bone tissue not surrounded by osteoblasts, causing the expansion of the areas and weakening of the involved bones[5].

Therefore, due to the particularities of this patient, treatment with Flexible Intramedullary Nails was tried as a first option for the treatment of the patient's subtrochanteric fracture with closed reduction and without opening the fracture focus. However, because a good intraoperative reduction was not achieved, a new synthesis material was chosen. The DCS - Dynamic Condylar Screw - that is, an extramedullary tutor with sliding screw with 95 degree lock. Thus, after a good open reduction, the fracture was fixed with DCS, showing good reduction and good fixation [6] (figure 2).

Early mobility, physiotherapy and weekly follow-up with the patient were released. After 4 weeks, he was released to walk with partial load and at that time he had little or no pain and range of motion similar to the contralateral limb. Greater attention was paid to the treatment and guidelines to be followed in order to avoid new fractures.

Therefore, there is a need for individualization in the treatment of patients with special demands as described in this case. This occurs since we have a syndrome with bone demands with low resistance to trauma and patients with special needs. Thus, it is necessary to draw on the experience of the team involved to provide orthopedic treatment to treat the fracture as well as to avoid or reduce the possibility of new fractures providing better living conditions for the patient. It also increases his survival by avoiding new fractures.

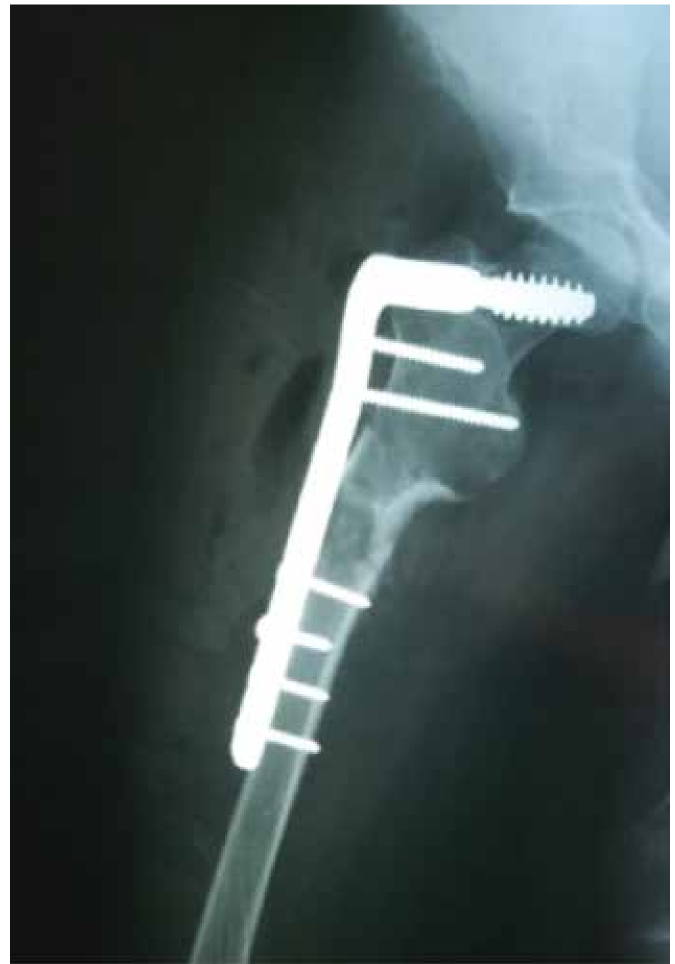

Figure 2 - Anteroposterior x-ray of the thigh, showing the result after fixation with DCS.

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THROMBOSIS IN A MITRAL BIOLOGICAL PROSTHESIS ASSOCIATED WITH SEVERE VALVE DYSFUNCTION DURING ORAL ANTICOAGULATION. CASE REPORT.

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ABSTRACT

The occurrence of a thrombus in a biological prosthesis is rare, but it presents a potentially fatal outcome when there is significant obstruction of the valve area. We describe the case of a 60-year-old patient who presented severe cardiac decompensation 10 months after implantation of biological mitral and aortic prostheses. The diagnostic transesophageal echocardiogram (TEE) showed a pedicled thrombus adhered to the left ventricular (LV) papillary muscle and important thickening of the mitral biological prosthesis (MBP) leaflets by a laminated thrombus with significant limitation of its opening causing severe mitral stenosis. Anticoagulant therapy started with low molecular weight heparin (LMWH) with resolution of the condition. Patient maintains regular monitoring with satisfactory evolution in the last four years.

KEYWORDS: THROMBOSIS / COMPLICATIONS; HEART VALVE PROSTHESIS; MITRAL BIOPROSTHESIS

INTRODUCTION

The incidence of thrombosis in mechanical valve prostheses varies around 0.4/100 patients/year, with the occurrence in the mitral position about 5 times greater than in the aortic position[1]. On the other hand, the formation of a thrombus in a biological prosthesis, despite having frequent potentially fatal outcomes, seems to be underdiagnosed or inadequately diagnosed as valve degeneration. The incidence ranges from 0.1/100 valves/year to 6% in the mitral position, in some reports[2].

Specific risk factors for the occurrence of thrombosis in biological prostheses are unknown, but states of hypercoagulability may predispose to the formation of thrombi[3] associated with conditions such as enlarged left atrium, atrial fibrillation, ventricular dysfunction and a previous history of thromboembolic events[4]. Considering these factors, the Brazilian Valvulopathies Directive recommends anticoagulation with warfarin in the first six months after placing a biological prosthesis in the mitral position even for patients in sinus rhythm (IIb NE B) [5].

The purpose of this report is to describe a case where there was a thrombus in a mitral biological prosthesis, with major obstruction of the valve area, associated with cardiac decompensation, even when using oral anticoagulation.

CASE REPORT

G.M.S., a 60-year-old female was evaluated in a Cardiology outpatient clinic complaining of dyspnea on minimal exertion, orthopnea and paroxysmal nocturnal dyspnea for about six days. She had been admitted to another service with a slight improvement in her condition, being discharged with instructions for TEE and early return to an outpatient clinic.

Patient presented a history of percutaneous mitral valvuloplasty 13 years ago due to rheumatic mitral valve disease and positive serology for Chagas disease with intestinal involvement already demonstrated. 13 months ago, after severe pain in the left lower limb, acute arterial occlusion was diagnosed and the surgical approach was

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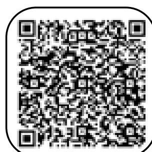

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performed to remove the thrombus. Two days after discharge, the patient returned to the hospital with severe chest pain, dyspnea on minimal exertion, sweating and tachycardia, consequently being diagnosed with atrial fibrillation (AF) with high ventricular response and an important systolic murmur in the mitral area. She underwent a transthoracic echocardiogram (TTE) that showed a left atrium (LA) of 53mm, an ejection fraction of 37%, severe mitral stenosis and severe aortic insufficiency. Cardiac catheterization did not show significant lesions in coronary arteries. 10 months ago, she underwent cardiac surgery to replace the mitral and aortic valves with biological prostheses, associated with the closure of the left atrial appendage and surgical isolation of pulmonary veins. Despite the initial success in the occurrence of sinus rhythm, she resorted to atrial fibrillation on the second postoperative day. She was discharged using digoxin, metoprolol, amiodarone, spironolactone, warfarin, acetylsalicylic acid and pantoprazole. She maintained outpatient follow-up with difficulty in controlling the prothrombin time international normalized ratio (PT/INR). Echocardiogram performed six months ago, four months after the surgical intervention, revealed a 51mm left atrium, 65% ejection fraction with normal functioning of mitral and aortic prostheses.

Upon admission, 10 months after valve replacement surgery, she presented decompensated heart failure with complaints of palpitations and precordial pain associated with dyspnea on minimal efforts. Electrocardiogram (ECG) showed AF rhythm with HR: 104bpm. TEE showed EF: 56%, LA: 48mm with mass adhered to LV papillary muscle, pedicled thrombus measuring 16X9mm (Figures 1A and B), mitral valve gradient 29 (peak) and 18 (medium), PBM with important limitation of the opening of the leaflets, with laminated thrombus attached (figure 2), LA with spontaneous contrast (+++/+4) (Figure 3) and sessile thrombus occupying 2/3 of its area (figure 4), normal functioning aortic biological prosthesis. The patient was admitted and submitted to full anticoagulation with enoxaparin.

Considering the previous embolic events and the current condition, even when using warfarin, the hematology team requested an evaluation, which attributed competition factors to coumarins, such as the use of furosemide and self-medication with laxatives, with justification for therapeutic failure in the control of PT / INR.

The patient was discharged nine days after admission with clinical improvement and strict guidance on the control of warfarin use. Patient maintains outpatient follow-up with regular and strict control of PT/INR, without the need for hospitalization. TTE performed months after hospital discharge showed aorta: 33mm LA: 39mm EF: 44% absence of image suggesting thrombus in LA, mitral valve gradient 11mmHg (medium) and 26mmHg (peak) valve area: 1.8mm.

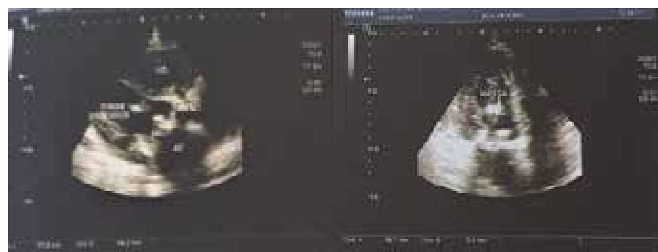

Figure 1 A and B: mass attached to the end papillary muscles compatible with pedicled thrombus measuring 16X9mm

Figure 2: Mitral biological prosthesis with significant limitation of the opening of the leaflets (laminated thrombus).

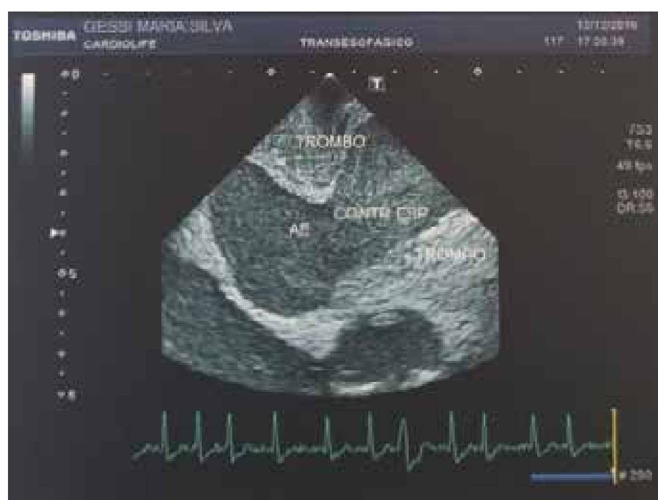

Figure 3: LA presents 48mm with the presence of spontaneous contrast and thrombus.

Figure 4: Thrombus with a sessile aspect, occupying 2/3 of the left atrial cavity.

DISCUSSION

Rheumatic heart disease, despite the significant reduction in incidence and mortality in Brazil, remains highly prevalent (1 to 7 cases/1000) when compared to the occurrence in developed countries[6]. The repercussions of changes in mitral valve disease in the myocardial structure contribute to the development of atrial cardiomyopathy with hypocontractility and impaired atrial endothelial function that could potentially contribute to the formation of clots, regardless of the detection of atrial fibrillation[7].

The occurrence of thrombus in our patient was in the tenth month after the placement of the mitral biological prosthesis, about two months before that described in a report by Pislaru, from the Mayo Clinic[3] that suggests thrombi between 13 to 24 months after implantation, as well as a description of more frequent occurrence in patients with subtherapeutic anticoagulation.

Treatment with the use of LMWH is suggested as the first choice in the treatment of thrombosis in biological valve prosthesis, associated or not with initial oral anticoagulation[8]. It was the therapeutic option at our service, despite the size of the thrombus and the important impairment of valve function due to the low risk compared to fibrinolysis or reoperation[4] and the patient's good evolution, in association with the therapies instituted to control cardiac decompensation.

The benefit of warfarin in the prevention of embolic events is already well defined, however, the reach of the therapeutic dose verified through the PT/INR even in selected populations and with strict monitoring is 66.4% [9]. Many factors can contribute to suboptimal control of INR including inadequate adherence to warfarin therapy, drug interactions, inadequate or erratic intake of foods containing vitamin K and genetic differences between patients[10]. Warfarin was maintained in the patient (CHA2DS2:3) during hospitalization and after hospital discharge and the better adequacy of INR in subsequent evaluations was attributed to reorientation regarding the importance of proper medication use, self-medication and strict outpatient monitoring.

CONCLUSION

The evaluation of the patient with cardiac decompensation and a history of valve replacement, even with the placement of a biological prosthesis, should take into account the hypothesis of thrombosis in the prosthesis. TEE is the method of choice for clarifying the etiology of unfavorable developments. The use of LMWH even in the presence of large and pedicled thrombi that result in significant limitation of valve mobility is a safe therapeutic option in patients without hemodynamic instability. Strict control and perseverance in guiding the patient on the proper use of warfarin can change outcomes, even with the limitations we face in our health system.

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CASE REPORT: HETEROTOPIC PREGNANCY WITH OVARIAN IMPLANTATION

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ABSTRACT

Heterotopic pregnancy is an extremely rare condition characterized by an ectopic pregnancy combined with eutopic pregnancy. Assisted reproduction treatment is responsible for the incidence increase of this condition. Our case presents a patient first diagnosed with only ovarian pregnancy which is a rare type of ectopic pregnancy, being considered a gynecological emergency and a risk to maternal life. After surgical treatment the obstetric ultrasound showed a simultaneous eutopic pregnancy, characterizing a case of heterotopic implantation. In the case presented, there is difficulty in diagnosis, with eutopic pregnancy being suspected only after the resolution of the ovarian pregnancy. This case highlights the importance of conducting post-resolution clinical follow-up of ectopic pregnancies and also that valuing the patient symptoms is essential. It also highlights the relevance of excluding an ectopic pregnancy, especially when the patient has many risk factors, such as assisted reproduction. In addition, our case emphasizes that the presence of an ectopic pregnancy in the existence of an eutopic one should not be disregarded, being the inverse fact true.

KEYWORDS: ECTOPIC PREGNANCY; OVARIAN PREGNANCY; HETEROTOPIC PREGNANCY; DIAGNOSTIC; ULTRASOUND.

ABSTRACT

Heterotopic pregnancy is an extremely rare condition characterized by an ectopic pregnancy combined with a eutopic pregnancy. Assisted reproduction treatment is responsible for the incidence increase of this condition. Our case presents a patient first diagnosed with only ovarian pregnancy which is a rare type of ectopic pregnancy, being considered a gynecological emergency and a risk to maternal life. After surgical treatment the obstetric ultrasound showed a simultaneous eutopic pregnancy, characterizing a case of heterotopic implantation. In the case presented, there is difficulty in diagnosis, with eutopic pregnancy being suspected only after the resolution of the ovarian pregnancy. This case highlights the importance of conducting post-resolution clinical follow-up of ectopic pregnancies and also that valuing the patient symptoms is essential. It also highlights the relevance of excluding an ectopic pregnancy, especially when the patient has many risk factors, such as assisted reproduction. In addition, our case emphasizes that the presence of an ectopic pregnancy in the existence of a eutopic one should not be disregarded, being the inverse fact true.

Key-words: Ectopic pregnancy; ovarian pregnancy; heterotopic pregnancy; diagnostic; ultrasound

INTRODUCTION

Heterotopic pregnancies (HP) are defined as the simultaneous presence of eutopic and ectopic pregnancies. The first description of a pregnancy of this type was made in 1708. There are few estimates of incidence in the literature, the most accepted being that of 1 for 30,000 spontaneous pregnancies [1]. However, this incidence is related to natural pregnancies. With the advancement and increasing use of assisted reproduction techniques, the incidence of heterotopic pregnancy has been increasing a lot. When using such methods, it can vary from 0.09% to 1.00% [2-5].

The risk factors for heterotopic pregnancy are the same as for ectopic pregnancy, including tubal dysfunction, pelvic inflammatory disease, surgical manipulation of the uterus, previous ectopic pregnancy, infertility (which in itself can indicate tubal dysfunction) [6] and use of assisted reproduction techniques, the latter being an increasing risk factor in this scenario, being the main target of discussion in recent publications on heterotopic

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pregnancy [2].

Ovarian pregnancy is the most common form of non-tubal ectopic pregnancy, occurring in about 0.5% to 3% of ectopic pregnancies, and its causes are not fully understood [7]. It is considered a gynecological emergency, being one of the main complications of pregnancy in the first trimester [8].

According to Spiegelberg criteria, an ovarian pregnancy is the one that occurs in the presence of a gestational sac in an ovarian position and partially surrounded by the ovarian parenchyma and connected to the uterus by the ovarian ligament [8].

The diagnosis of this condition occurs mainly during surgery, and is still confused with a ruptured corpus luteum, requiring anatomopathological examination to close the diagnosis [9].

In the case presented, we will see a heterotopic pregnancy in which the patient has an embryo implanted in the ovary (characterizing an ectopic ovarian pregnancy) and the other embryo is in its typical place.

CASE REPORT

Patient, D.A.R, 37 years old, nulliparous, with complaint of infertility for two years, started medical treatment to get pregnant after video hysteroscopy myomectomy. After two months of resting period, plasma b-HCG was tested with a positive result. However, the patient presented with severe abdominal pain in the following week. The performance of transvaginal ultrasonography (US) showed the presence of free fluid in the abdominal cavity and the presence of a left adnexal mass with a diagnosis of ruptured ovarian ectopic pregnancy.

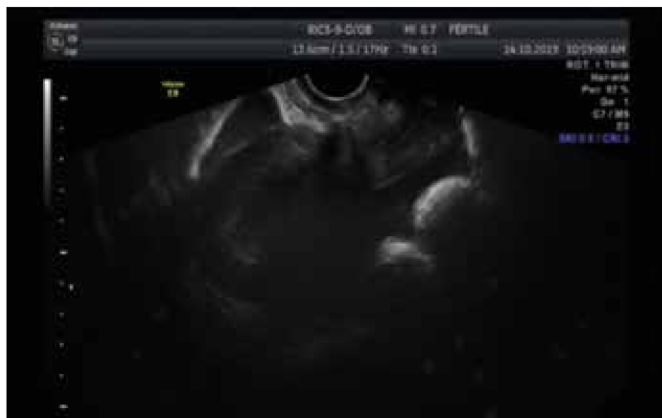

Figure 1: Obstetric ultrasound showing the presence of free fluid in the abdominal cavity
Source: Fértile diagnósticos

Patient underwent laparoscopic surgical treatment. However, in the following week, she sought care since she reported continuation of gestational symptoms. A new transvaginal US was performed. This showed the presence of a normal inserted gestational sac, indicating possible heterotopic pregnancy. The 6-week-old fetus was visualized the following week on a new obstetric USG. The evolution of the eutopic pregnancy was usual, without complications.

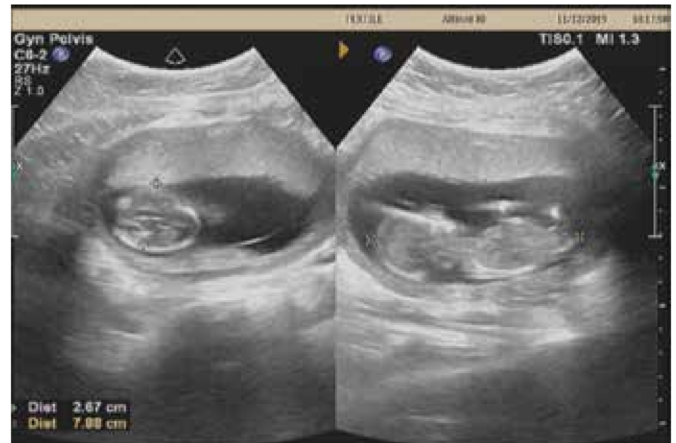

Figure 2: 12-week obstetric ultrasound
Source: Fértile Diagnósticos

The delivery took place at term, with 39 weeks by cesarean section, a male newborn weighing 3,245 kg and APGAR 9 an 10.

Figures 3 and 4: Healthy Newborn
Source: Author´s Archives

DISCUSSION:

The challenge regarding HP is its diagnostic difficulty. In the case in question, for example, ovarian pregnancy (which in itself is rare, occurring in 1-3% of ectopic pregnancies and 0.15% of pregnancies as a whole) became evident and only after its resolution and the continuity of

symptoms the eutopic pregnancy was suspected. Transvaginal ultrasound is the method of choice in the diagnosis of HP, which, being performed by an experienced professional, has important sensitivity in the diagnosis [5]. Laboratory tests fail to diagnose due to the presence of two overlapping pregnancies.

The case highlights the importance of carrying out clinical follow-up of patients, with armed propaedeutics, after resolution of ectopic pregnancy, in addition to shedding light on the valorization of the patient's symptoms.

The management of an ectopic pregnancy is controversial and full of details. The objective is to preserve the life of the mother and the viable intrauterine fetus, which contraindicates conventional treatments for ectopic pregnancies, such as the use of methotrexate. The resolution of an ovarian pregnancy is usually done by oophorectomy, however conservative methods such as cystectomy or wedge resection have proven to be good in treating this condition. The laparoscopic approach is always preferred due to better recovery and less risk. However, in unstable patients or those who would have difficult access, laparotomy is the best option [10]. Early diagnosis and early treatment are key points in this regard because laparoscopic management leads to less manipulation of the pregnant uterus and better prognosis for viable pregnancy.

The case draws attention due to the fact that the eutopic pregnancy was only diagnosed after resolution of the ectopic pregnancy. The viability and conclusion of the pregnancy show the importance of an adequate management of ectopic pregnancy and the case highlights the importance of excluding an ectopic pregnancy whenever possible, especially when there are risk factors for this, including the use of techniques of assisted reproduction having gigantic importance. The fact of never disregarding an ectopic pregnancy due to the presence of eutopic pregnancy should be noticed, the opposite being also true.

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REVIEW ARTICLE

PSEUDOMEMBRANOUS COLITIS: A BIBLIOGRAPHIC REVIEW

GABRIEL GIFFORD CARNEIRO[1], PATRICIA GONÇALVES EVANGELISTA[2]

ABSTRACT

The aim of this study is to describe through literary findings pseudomembranous colitis and its main characteristics, diagnoses and treatments. It was performed by searching the Virtual Health Library (VHL), using mainly the databases: Latin American and Caribbean Health Sciences Literature (LILACS), Scientific Electronic Library Online (SciELO), Medical Literature Analysis and Retrieval System Online (Medline) and PubMed. Pseudomembranous colitis is a nonspecific pattern of injury resulting from decreased oxygenation, endothelial damage, and mucosal-impaired blood flow, which can be triggered by various disease states, is caused by the gram-positive anaerobic bacterium Clostridium difficile (C.difficile). For the diagnosis a careful and complete history is crucial; quality and duration of symptoms, exposure history, chronic medical conditions (including conditions that cause an immunosuppressed state) and a list of medications will help narrow the differential diagnosis. Treatment is specific to the underlying etiology and will be individualized. Consultation with a gastroenterologist should be considered early in the course of the disease. As there is no vaccine available yet preventive measures are advocated such as strict hand washing, enteric precautions and careful use of antibiotics are imperative and remain the most effective means of preventing the spread of the body and disease.

KEYWORDS: PSEUDOMEMBRANOUS COLITIS. CLOSTRIDIUM DIFFICILE. DIAGNOSIS. TREATMENT.

INTRODUCTION

Pseudomembranous colitis is a nonspecific pattern of lesion resulting from decreased oxygenation, endothelial damage and impaired mucosal blood flow, which can be triggered by various disease states. Chemicals, drugs, ischemia, microscopic colitis, other infectious organisms and inflammatory conditions can predispose to the formation of pseudomembranes and must be included in the differential diagnosis[1].

Since most patients with pseudomembranous colitis have C. difficile infection, it must be ruled out first. The most common predisposing factor is the previous use of antibiotics, including vancomycin and metronidazole, which are therapy for C. difficile colitis[2].

Pseudomembranous colitis is rare but catastrophic in C. Difficile infection and may occur in less than 25% of other bacterial, viral and toxic causes of diarrhea, gastroenteritis and anorectal fistulas[3].

This study aims to describe, through literary findings, pseudomembranous colitis and its main characteristics, diagnoses and treatments.

It was carried out by searching the Virtual Health Library (VHL), using mainly the databases: Latin American and Caribbean Literature in Health Sciences (LILACS), Scientific Electronic Library Online (SciELO), Medical Literature Analysis and Retrieval System Online (Medline) and PubMed.

LITERATURE REVIEW

2.1. HISTORY OF PSEUDOMEMBRANOUS COLITIS

A colite pseudomembranosa foi descrita em 1893 nos estudos de Finney4. O Clostridium difficile foi descrito pela primeira vez em 1935, mas sua associação com antibióticos e PMC não foi descrita até a década de 19705.

Pseudomembranous colitis was described in 1893 in Finney's studies[4]. Clostridium difficile was first described in 1935, but its association with antibiotics and PMC was not described until the 1970s[5].

Only in 1977 was that Larson described the association with the use of antibiotics, more precisely oral penicillin[6].

In 1978 Larson describes that Clostridium difficile was identified as a source of the toxin in the feces of patients with pseudomembranous colitis[7].

C. difficile is a gram-positive anaerobic toxin-pro-

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ducing organism with the ability to form spores. This last characteristic lends itself to the acquisition of the environment, particularly in nosocomial contexts. It has been identified as the causative agent in 15 to 30% of diarrhea associated with antibiotics and as the main cause of colitis associated with antibiotics[6].

2.2. DEFINITIONS ABOUT PSEUDOMEMBRANOUS COLITIS

Pseudomembranous colitis, also called antibiotic-associated colitis, is caused by the gram-positive anaerobic bacteria Clostridium difficile (C.difficile) (Figure 1). Infection is common in elderly patients on chronic antibiotic use and in immunosuppressed patients[8].

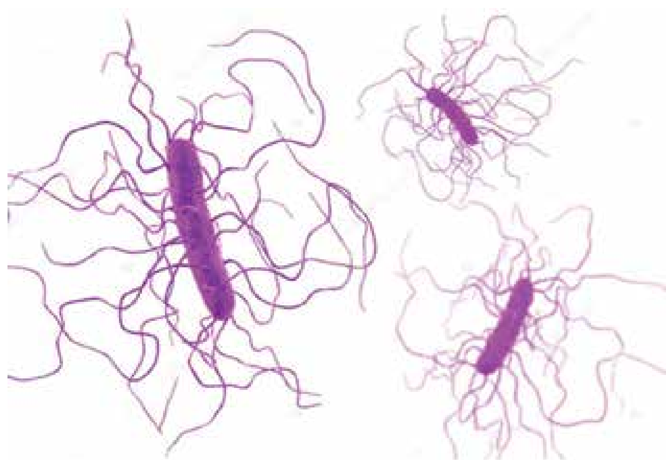

Figure 1 –Clostridium difficile (C.difficile)
Source: LabNetwork, 2019[9].

Pseudomembranous colitis, caused by Clostridium difficile, has increased its incidence in recent years, driven mainly by the indiscriminate use of antibiotics[10].

It is an inflammatory condition of the colon and rectum characterized by elevated yellowish-white plaques that fuse to form pseudomembranes in the mucosa. Patients with the condition usually have abdominal pain, diarrhea, fever and leukocytosis[6].

The mortality rate is high in debilitated patients and when not properly diagnosed and treated. Occasionally, emergency surgery is required due to complications, including perforation of the colon and toxic colitis[11].

Typical symptoms of C. difficile infection include bloodless diarrhea or colitis associated with severe abdominal pain, fever and/or apparent or occult blood in the stool. The most severe form of this disease occurs as a result of a severe inflammatory response to C. Difficile toxins[12]. Toxic megacolon and acute peritonitis secondary to colon perforation are the most serious complications[13].

Pensa-se que a antibioticoterapia possa alterar a flora entérica, permitindo que C. difficile prolifere e produza toxinas com efeitos citopáticos (toxina B ou citotoxina) e hipersecretores (toxina A ou enterotoxina) na mucosa. Os maiores efeitos das toxinas A e B são a ruptura do citoesqueleto de actina. As células intoxicadas por estas proteínas demonstram uma retração do processo celular e uma circularização do corpo celular. Isso ocorre devido a desmontagem dos filamentos F de actina e um aumento de actina-G antes da circularização da célula. Poucas moléculas de toxina são necessárias para produzir esta circularização. No estado de doença ativa, o epitélio do cólon é o maior alvo das toxinas do C. difficile. Elas causam a ruptura da barreira celular abrindo as junções intercelulares. Este efeito aumenta a permeabilidade do cólon, levando a diarreia aquosa, a qual é um sintoma característico da diarreia associada a C. difficile (figura 2)[14].

Antibiotic therapy is thought to alter the enteric flora, allowing C. difficile to proliferate and produce toxins with cytopathic effects (toxin B or cytotoxin) and hypersecretors (toxin A or enterotoxin) in the mucosa. The greatest effects of toxins A and B are the disruption of the actin cytoskeleton. The cells intoxicated by these proteins demonstrate a retraction of the cell process and a circularization of the cell body. This occurs because of the disassembly of the actin F filaments and an increase in actin-G before the cell is circularized. Few toxin molecules are needed to produce this circularization. In the active disease state, the colon epithelium is the major target for C. difficile toxins. They cause the cell barrier to rupture by opening the intercellular junctions. This effect increases the permeability of the colon, leading to watery diarrhea, which is a characteristic symptom of diarrhea associated with C. difficile (figure 2)[14].

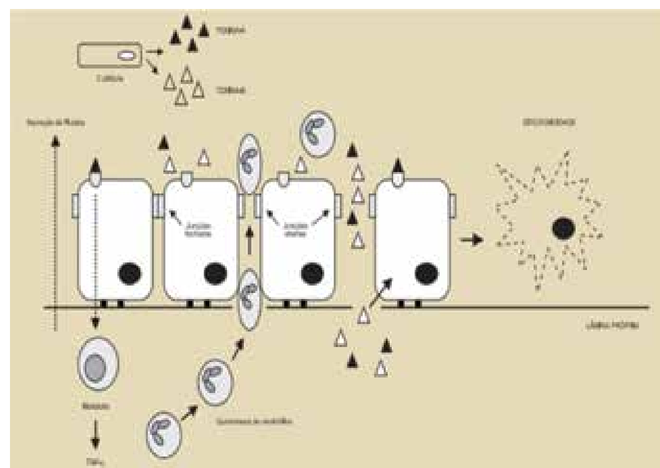

Figure 2 - Actions of toxins A and B of C.difficile in th intestina epithelium
Source: SILVA, SALVINO, 2003[14].

In addition to clindamycin, the first antibiotic recognized for being clearly associated with pseudomembranous colitis, the most commonly responsible antimicrobial agents are cephalosporins and ampicillin (or amoxicillin). However, practically all antibiotics, except parenterally administered aminoglycosides, can cause the disease[13].

The disease has gained importance in recent years due to the occurrence of serious epidemics in several advanced countries[15].

When analyzing 80 patients (43-GES; 37-MS) the profile found was: average age - 68.6 ± 17.7 years; male gender - 52.5%; Antibiotic therapy in the previous 3 months - 85%; average AB time 10.5 ± 6.1 days. The most implicated antibiotics were: cephalosporins, amoxicillin / clavulanic acid and quinolones. Associated Risk Factors: renal failure (22.5%), heart failure (22.5%); previously bedridden patient (36.3%). Diagnostic Methods: toxin search-58 patients (out of 36); colonoscopy - 62 (out of 53); culture - 23 (out of 16). Mortality was 18.8% (n=15); recurrences - 10% (n=8). Therapy: metronidazole - 37 patients (46.3%); vancomycin - 24 (30%); metronidazole + vancomycin - 12 (15%) [16].

2.3. DIAGNOSTIC METHODS OF PSEUDOMEMBRANOUS COLITIS

Pseudomembranes are generally seen during endoscopic procedures, sigmoidoscopy or, if possible, colonoscopy; the most useful microbiological tests for confirming the diagnosis include cultures of cefoxitin fructose-agar with cycloserine and AGFA and fecal toxin assays in tissues or by immunological techniques[13].

The diagnosis is based on the detection of C. difficile in feces, either by culture, tissue culture assay for cytotoxin B or detection of antigens in feces by rapid enzyme immunoassays[12].

Laboratory tests cannot distinguish between asymptomatic colonization and symptomatic infection by C. difficile. Diagnostic approaches are complex due to the availability of several testing strategies. Multi-step algorithms using the polymerase chain reaction (PCR) for the toxin gene (s) or single-step PCR in liquid stool samples have the best test performance characteristics (multiple step: sensitivity 0 , 68 to 1.00 / specificity 0.92 to 1.00; single step: sensitivity 0.86-0.92 / specificity 0.94-0.97)[17].

Although Clostridium difficile infection is the cause of most cases of pseudomembranous colitis, physicians should consider less common causes, especially if pseudomembranes are seen at endoscopy, but tests remain negative for C. difficile or if the presumed C. difficile infection does not respond to treatment[1].

Ultrasonography can be used as an early screening for pseudomembranous colitis and the main findings are: Diffuse colon thickening of less than 10 mm, often more prominent on the left; Extensive submucosal edema; Free pericolic fluid; intramural gas[18].

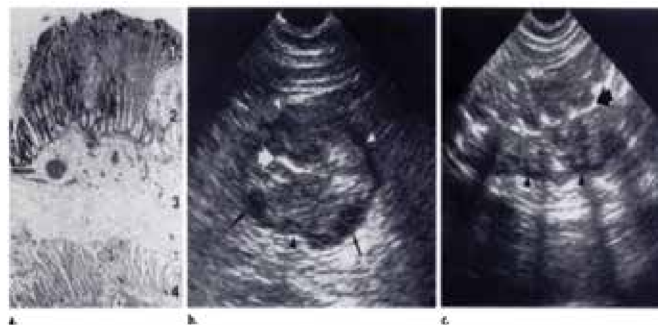

Figure 3 – Pseudomembranous Colitis USG
Images of a 54-year-old man with severe PMC undergoing colectomy because of severe fluid and electrolyte imbalances. (a) Photomicrography of the ascending colon wall shows four distinct layers, histologically discernible. Layer I shows a classic pseudomembranous plaque consisting of inflammatory cells and debris. Layer 2 contains partially ruptured mucous glands distended by mucin and a marked inflammatory infiltration. Layer 3 demonstrates the grossly edematous submucosa. Layer 4 shows moderate edema of the muscle itself. (Hematoxylin-eosin stain; low power magnification.) Transverse (b) and sagittal (c) ultrasound images of the ascending colon demonstrate gross thickening of the intestinal wall with removal of the lumen (thick arrow). The pseudomembranous plaque, mucosal and submucosal layers are not resolved individually, but are collectively represented by a heterogeneous zone of medium echogenicity. The focal expansions in this layer (thin arrows) are the taeniae coli muscles.
Source: DOWNEY, WILSON 1991[18].

Tomographic changes are present in the colon in 88% of cases of pseudomembranous colitis. In a study with 26 patients, 23 demonstrated an intestinal wall abnormality, with a medium wall thickness of 14.7 mm (range, 3-32 mm); in three patients, intestinal wall thickness was normal. Pancolonic involvement was observed in 13 cases, while seven patients had only involvement on the right side; three patients presented thickening of the intestinal wall limited to the rectosigmoid only, there is no high specificity for the isolated exam[19].

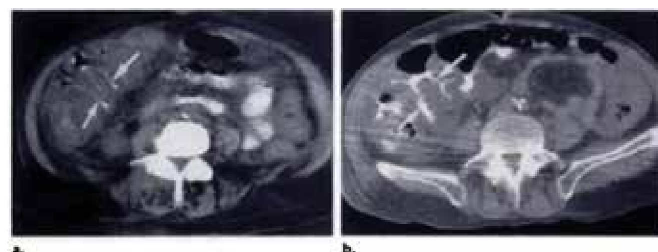

Figure 4 – CT of Pseudomembranous colitis
Marked thickening of the right side of the colon with tracking of contrast material (arrows) between the thickened folds. Thickening of pericolonic tissues is perceived. (b) Extensive inflammation of the right side of the colon with layers of contrast material between inflamed mucous folds (arrows). (FISHMAN, 1991)[19].

2.4. PSEUDOMEMBRANOUS COLITIS TREATMENT

Clostridium difficile is a pathogen known to cause diarrhea and colitis. If not treated properly, it can repeat itself and progress to life-threatening conditions, such as toxic megacolon and multiple organ failure. The updates to the guidelines launched in 2018 reflect notable changes in the treatment of C. difficile infection. Metronidazole is no longer recommended as a first-line therapy for adults; oral vancomycin and fidaxomycin are now recommended[20].

Vancomycin is also effective, but its use should be limited to decrease the development of organisms resistant to vancomycin, such as enterococci. Vancomycin (125-500 mg 4 times daily for 10 days) should be limited to those who cannot tolerate or respond to metronidazole, or when the use of metronidazole is contraindicated, as in the first trimester of pregnancy. A therapeutic response within a few days is usual. The recurrence of symptoms after antibiotics occurs in 20% of cases and is associated with the persistence of C. difficile in the stool. Additional recurrences become more likely. Antibiotic therapy in a pulsed or conical regimen is often effective, as are efforts to normalize faecal flora. The yeast Saccharomyces boulardii has been proven in controlled trials to reduce recurrences when administered as an adjunct to antibiotic therapy. Careful hand washing and environmental decontamination are necessary to prevent epidemics[12].

Recent data demonstrates clinical success rates of 66.3% for metronidazole versus 78.5% for vancomycin for severe CDI. The latest therapies show promising results, including fidaxomycin (clinical cure rates similar to vancomycin, with lower recurrence rates for fidaxomycin, 15.4% vs. vancomycin, 25.3%, P = 0.005) and fecal microbiota transplantation (response rates from 83% to 94% for recurrent CDI) [17].

O transplante de microbiota fecal está associado à resolução dos sintomas de CDI recorrente, mas seu papel no CDI primário e grave não está estabelecido[17].

Fecal microbiota transplantation is associated with the resolution of symptoms of recurrent CDI, but its role in primary and severe CDI has not been established[17].

Relapses are seen in 5 to 50% of treated patients. Antibiotic treatment should avoid sporulation, leading to other relapses. 'Biotherapy' (lactobacilli, Saccharomyces) has also been proposed[13].

The pharmacist's involvement in antibiotic administration programs optimizes the treatment of infections by selecting appropriate antibiotics, decreasing therapy when applicable, reducing hospitalizations and still providing patient education to prevent spread such as washing hands with soap and water every time that the bathroom is used and always before eating and still by recommending that patients with diarrhea use a separate bathroom at home, if possible and all surfaces are be cleaned with a mixture of bleach and water[20].

CONCLUSION

Clostridium difficile is the most common hospital infection of the gastrointestinal tract and is mainly caused by C. difficile infection but there are other risk factors besides antibiotics and C. difficile.

A careful and thorough history is crucial; quality and duration of symptoms, history of exposure, chronic medical problems (including conditions that cause an immunosuppressed state) and a list of medications will help narrow the differential diagnosis.

Treatment is specific to the underlying etiology and will be individualized. Consultation with a gastroenterologist should be considered early in the course of the disease.

As there is no vaccine available yet, preventive measures are recommended, such as strict hand washing, enteric precautions and the careful use of antibiotics are imperative and remain the most effective means of preventing the spread of the organism and disease.

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