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SURGICAL CHALLENGES ASSOCIATED WITH OBESITY: ANALYSIS OF COMPLICATIONS IN ORTHOPEDIC AND GYNECOLOGICAL PROCEDURES IN FD IN 2023

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ABSTRACT

INTRODUCTION: Obesity, defined as an excessive accumulation of body fat with a risk to health, has become a global epidemic, with prevalence more than tripling since 1975. It is estimated that, in 2023, about 650 million people in the world will be living with the condition (World Health Organization, 2023). In addition to direct health impacts such as cardiovascular disease, type 2 diabetes, and hypertension, obesity is a major risk factor for surgical complications. Obese patients are likely to face an increased risk of intraoperative and postoperative complications, especially in areas such as orthopedics and gynecology, where the characteristics of the disease can complicate procedures and worsen outcomes.

Keywords: Obesity and Surgery. Surgical Complications. Orthopedic and Gynecological Procedures.

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INTRODUCTION

Obesity, defined as an excessive accumulation of body fat with a health risk, has become a global epidemic, with prevalence more than tripling since 1975. It is estimated that, in 2023, about 650 million people in the world will be living with the condition (World Health Organization, 2023). In addition to direct health impacts such as cardiovascular disease, type 2 diabetes, and hypertension, obesity is a major risk factor for surgical complications. Obese patients are likely to face an increased risk of intraoperative and postoperative complications, especially in areas such as orthopedics and gynecology, where the characteristics of the disease can complicate procedures and worsen outcomes.

In orthopedic surgeries, such as hip and knee arthroplasties, and in gynecological interventions, such as hysterectomies, obesity has shown significant adverse effects. These include increased surgical time, difficulty in anatomical access, thromboembolic complications, and difficulties in healing. In the context of the Federal District, where obesity rates have grown in recent years, this scenario becomes even more relevant, demanding more careful and adapted surgical approaches.

This study aims to investigate the impact of obesity on complications in patients undergoing orthopedic and gynecological surgeries in the Federal District in 2023, seeking to understand the main complications associated with this condition and its effects on surgical outcomes.

METHODOLOGY

STUDY DESIGN

This is a retrospective cross-sectional epidemiological study with a qualitative-quantitative and descriptive approach, using secondary data recorded in the Notifiable Diseases Information System (SINAN). The data analyzed were extracted from the records of surgical complications associated with obesity in orthopedic and gynecological surgeries performed in 2023 in the Federal District, provided by the State Department of Health of the Federal District.

SELECTION OF PARTICIPANTS

The target population was composed of individuals diagnosed with obesity who underwent orthopedic or gynecological surgeries in the period of 2023. For the purposes of the study, only cases in which obesity was identified as a risk factor for complications were included. Cases in which the patient did not have obesity or those who did not have complications associated with surgery were excluded.

DATA COLLECTION

The data was collected in May 2024, directly from the SINAN portal. The inclusion criterion was the diagnosis of obesity and the performance of orthopedic or gynecological surgeries during the year 2023. The analysis was limited to reported complications and data from patients who met the established criteria.

BIASES

The study may have been influenced by confounding biases, information biases, and selection biases. Confounding bias may occur due to the association between obesity and other risk factors, such as comorbidities not directly related to obesity. Information bias refers to the quality and completeness of the data in SINAN, while selection bias may have occurred due to the exclusion of certain groups or imprecision in the notification of complications.

STATISTICAL ANALYSIS

A descriptive statistical analysis was performed using the Epi Info software. The variables were analyzed using the chi-square test to compare proportions between the groups. The prevalence ratio (PR) was used to calculate the association between obesity and complications, with a 95% confidence interval.

LIMITATIONS

One of the limitations of this study was the impossibility of directly comparing the sexes in gynecological and orthopedic surgeries, since the sample was divided between women (gynecological surgery) and men (orthopedic surgery). In addition, the population of self-employed workers who do not issue the Occupational Accident Report (CAT) may have been underreported, which may have affected the representativeness of the data. Other limitations refer to the lack of data on respiratory functionality in the different care centers.

ETHICAL CONSIDERATIONS

The study was approved by the Research Ethics Committee (CEP), and, as these were secondary data, the Informed Consent Form was waived.

RESULTS

In 2023, in the Federal District, of the 115 obese patients who underwent orthopedic or gynecological surgeries, 103 (89.57%) had complications. Among the 12 cases without complications, all were from orthopedic surgeries. The sample was composed of 69% women (60 cases of gynecological surgery) and 31% of men (55 cases of orthopedic surgery).

The most frequent complications in gynecological surgeries were sepsis (19.13%), pulmonary thromboembolism (PTE) (19.13%), and shock (31.30%). In orthopedic surgeries, the main complications were sepsis (8.69%), PTE (14.78%) and shock (27.82%). In terms of mortality, gynecological surgeries had a death rate of 26.95%, while orthopedic surgeries registered 16.52%.

The prevalence ratio (PR) analysis indicated that patients undergoing gynecological surgeries were 2.03 times more likely to have complications, with a confidence interval between 0.95 and 4.30, which was not statistically significant at the 5% level (p-value = 0.064). For orthopedic surgeries, the PR was 0.49, with a confidence interval between 0.23 and 1.05, also without statistical significance.

DISCUSSION

Obesity has been identified as an important risk factor for a series of surgical complications, with an impact on both orthopedic and gynecological procedures. The literature confirms that obese patients are at higher risk of complications such as infections, pulmonary thromboembolism, circulatory shocks, and death, especially in complex surgeries such as gynecological surgeries (Schorge, 2020; Gupta et al., 2015).

In the orthopedic context, obesity is often associated with greater technical requirements, such as longer surgery time, risk of infections and respiratory complications, in addition to the need for larger prostheses, which can compromise postoperative recovery (Childs, 2023). In gynecological surgeries, in addition to the risks related to anesthesia and surgical manipulation, obesity increases surgery time, blood loss, and the chances of conversion to more invasive procedures (Michael et al., 2020).

The results of this study indicate that, in the Federal District, obesity has a significant impact on surgical complications, with a higher prevalence of complications in gynecological surgeries, such as sepsis and shock. These data are in line with the international literature, which highlights the increased risk of thromboembolism and infections in obese patients (Onifade et al., 2023; Albert A., 2023).

CONCLUSION

The study showed that obesity is strongly associated with an increased risk of surgical complications in patients undergoing orthopedic and gynecological procedures in the Federal District. The most common complications include sepsis, pulmonary thromboembolism, shock, and mortality. These findings reinforce the urgent need for public health strategies to combat obesity and improve the quality of surgical care for this population. Appropriate management of obese patients should include a multidisciplinary approach, taking into account the specific risks of each type of surgery.

This study contributes to the understanding of the impacts of obesity on surgical practice and highlights the importance of appropriate interventions to reduce risks and improve clinical outcomes. Continuous research on this topic is essential to improve surgical care and optimize the management of obese patients, whose prevalence is on the rise.

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