

Factors related to surgical site infection in a public hospital in the far west of Santa Catarina

Ani Keli Cristina Rossini¹, Fabiana Meneghetti Dallacosta².

INTRODUCTION

This study investigates the occurrence of surgical site infections (SSIs), which are the highest rates of healthcare-associated infections. Thus, the objectives of the study are to characterize the infections that occur in patients undergoing femoral fracture repair surgery and hip arthroplasty and to characterize them with the variables presented, being related to the patient and the procedure.

MATERIALS AND METHODS

This is a cross-sectional, exploratory study with a qualitative-quantitative approach. The research setting was a public hospital in the far west of Santa Catarina. The sample consisted of the Hospital Infection Service database of surgical patients institutionalized in the study hospital who underwent surgical procedures, and an active search for surgical site infection was performed. The study subjects were patients of both sexes, who underwent the following orthopedic surgical procedures during the study period. The research data were divided into two moments, the first from April 2018 to December 2019, and the second from April 2020 to December 2021, totaling 42 months of study.

RESULTS

A total of 494 patients who underwent surgical treatment participated in the study, of which 297 (60.1%) were female, 35.7% were over 80 years of age. The participants' ages ranged from under 1 year to over 80 years, with a higher number of elderly participants. The number of deaths in the postoperative period was 5.7% (28 people) in the first month after the procedure and 17 people (3.6%) after 90 days. Regarding the ASA classification, the most prevalent in this study was ASA 3 with 44.1%. The majority (61.7%) of the patients had surgical prophylaxis of the antibiotic performed, and the most prevalent potential for contamination was Potentially Contaminated, with 90.9%. Fourteen patients (2.8%) had SSI in the first postoperative month and five (1%) had SSI after 90 days. In total, 18 people (3.6%) developed infection in the postoperative period. In surgeries with ASA 1, there were no deaths, and from ASA 2

¹ University of the West of Santa Catarina - SC

² University of the West of Santa Catarina - SC



onwards, the higher the index, the more deaths ($p<0.000$) and SSI ($p=0.276$). The use of antibiotic prophylaxis was not related to death ($p=0.272$) or development of infection ($p=0.942$) in the postoperative period. Contaminated surgeries were related to death ($p<0.02$) and development of infection ($p<0.00$). Urgent and emergency surgeries had more cases of infection ($p<0.00$). There was a relationship between death and the older age group ($p<0.000$), and the mean age of those who died was 79.8 ± 9.4 years. The duration of surgery did not interfere with death ($p=0.186$). Analyzing the people who developed SSI in 30 or 90 days, it was observed that in the first month they were older people (66.2 ± 18.4 years), with surgery duration around two hours (121.2 ± 36.2 minutes) and 28 (5.7%) died. After 90 days, the mean age of people who developed SSI was 38.8 ± 32.6 years, the duration of surgery was longer, with a mean of 193.0 ± 57.1 minutes, and 17 (3.6%) died. Throughout the period, there was no relationship between death and the development of SSI.

FINAL THOUGHTS

We conclude that the development of SSI was associated with urgent and emergency surgeries, as well as related to the potential for contamination. Mortality was higher in the elderly, since it was the largest audience of participants and, in addition, in those with higher ASA criteria and also in contaminated or potentially contaminated surgeries.

Keywords: Surgical site infection, Femoral fracture, Hip arthroplasty.



REFERENCES

- Barbosa, Talita de Almeida, Souza, André Moreira Fogaça de, Leme, Fábio Caetano Oliveira, Grassi, Letícia Dalla Vecchia, Cintra, Fabio Bussolan, Moreira e Lima, Rodrigo, Gumieiro, David Nicoletti, & Navarro e Lima, Lais Helena. (2019). Perioperative complications and mortality in elderly patients undergoing surgery for hip fracture correction: A prospective observational study. *Brazilian Journal of Anesthesiology*, 69(6), 569-579. <https://doi.org/10.1016/j.bjan.2019.09.004>
- Connecting Expertise Multidisciplinary Development for the Future | Seven Editora.
Sevenpublicacoes.com.br. Available at:
<http://sevenpublicacoes.com.br/index.php/editora/issue/view/34>. Accessed on: January 22, 2024.
- Agência Nacional de Vigilância Sanitária. (2017). Diagnostic criteria for healthcare-associated infections. 2nd ed. Brasília: ANVISA.