

**TITLE:** MICROBIOLOGICAL ASPECTS OF SURGICAL SITE INFECTIONS IN A TEACHING HOSPITAL IN THE NORTH AREA OF THE STATE OF CEARÁ

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**ABSTRACT:**

Among the main healthcare associated infections (HAI), surgical site infection (SSI) can be understood as the entry, establishment and multiplication of a pathogen in the surgical incision. In Brazil, SSI remain today as one of the main risks to patient safety in health services. According to national surveys, the occurrence of SSI ranks third among HAI, equivalent from 14% to 16% of infections found in hospitalized patients. The aim of this study was to identify the main microorganisms responsible for surgical site infections that occurred in a teaching hospital in the north of the State of Ceará in 2021, and to analyze the multidrug resistance character of these pathogens. For the conduct of this study, a descriptive-documentary research was used with quantitative approach. The population considered in the study consisted of cases of SSI laboratory confirmed in the last year and notified by the Hospital Infection Control Commission at Santa Casa de Misericórdia de Sobral - CE. In 2021, 5,404 surgeries were performed in the aforementioned hospital in the different specialties. Of this total, 30 patients evolved with laboratory-confirmed SSI in wound secretion cultures. It was found that among the microorganisms, no fungus was identified, only bacteria. *Acinetobacter baumannii* was the most prevalent bacterium, isolated from 8 (26.7%) cases, followed by *Pseudomonas aeruginosa* (n = 5; 16.7%). In addition, *Escherichia coli* (n = 4; 13.3%), *Klebsiella pneumoniae* (n = 4; 13.3%), *Staphylococcus aureus* (n = 2; 6.7%), *Providencia stuartii* (n = 2; 6.7%), *Proteus mirabilis* (n = 2; 6.7%), *Enterococcus faecalis* (n = 1; 3.3%), *Staphylococcus haemolyticus* (n = 1; 3.3%), and *Staphylococcus epidermidis* (n=1; 3.3%) were also found. Of these, 12 (40%) were classified as multidrug resistant (MDR), all being gram-negative bacteria. On the other hand, no resistance was observed among the gram-positives. The species with MDR character were: *A. baumannii* (n = 5), *K. pneumoniae* (n = 3), *P. mirabilis* (n = 2), and *P. aeruginosa* (n = 2). Therefore, the results of this study reinforce the idea of how important it is to know the local epidemiology of SSI, so that, from there, it is possible to work in an integrated way with the Hospital Infection Control Commission for the elaboration of adequate and targeted therapeutic regimens, aiming at the decrease the frequency of HAI and get a better prognosis for patients.

**Keywords:** Antimicrobial resistance, epidemiological surveillance, microbiological profile, surgical wound infection

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