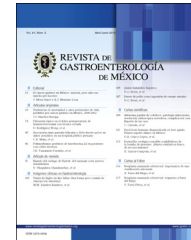




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ORIGINAL ARTICLE

Epidemiologic analysis: Prophylaxis and multidrug-resistance in surgery[☆]

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KEYWORDS

Surgical wound infection;
Prophylaxis;
Antibiotic;
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Critical patient;
Resistance

Abstract

Background: Surgical site infection is defined as an infection related to the surgical procedure in the area of manipulation occurring within the first 30 postoperative days. The diagnostic criteria include: purulent drainage, isolation of microorganisms, and signs of infection.

Aims: To describe the epidemiologic characteristics and differences among the types of prophylactic regimens associated with hospital-acquired infections at the general surgery service of a tertiary care hospital.

Material and methods: The electronic case records of patients that underwent general surgery at a tertiary care hospital within the time frame of January 1, 2013 and December 31, 2014 were reviewed. A convenience sample of 728 patients was established and divided into the following groups: Group 1: n=728 for the epidemiologic study; Group 2: n=638 for the evaluation of antimicrobial prophylaxis; and Group 3: n=50 for the evaluation of multidrug-resistant bacterial strains in the intensive care unit. The statistical analysis was carried out with the SPSS 19 program, using the Mann-Whitney U test and the chi-square test.

Results: A total of 728 procedures were performed (65.9% were elective surgeries). Three hundred twelve of the patients were males and 416 were females. Only 3.98% of the patients complied with the recommended antimicrobial prophylaxis, and multidrug-resistant bacterial strains were found in the intensive care unit.

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Discussion: A single prophylactic dose is effective, but adherence to this recommendation was not adequate.

Conclusions: The prophylactic guidelines are not strictly adhered to in our environment. There was a significant association between the development of nosocomial infections from multidrug-resistant germs and admission to the intensive care unit.

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PALABRAS CLAVE

Infección de herida quirúrgica;
 Profilaxis;
 Antibiótico;
 Cirugía;
 Paciente crítico;
 Resistencia

Análisis epidemiológico: profilaxis y multirresistencia en cirugía

Resumen

Antecedentes: Se define infección de sitio quirúrgico como infecciones relacionadas con el procedimiento quirúrgico en el área manipulada en los primeros 30 días. Criterios diagnósticos incluyen: drenaje purulento, aislamiento de microorganismos, signos de infección.

Objetivos: Describir las características epidemiológicas y las diferencias entre los tipos de esquemas profilácticos asociados a infecciones nosocomiales en el servicio de Cirugía General en un hospital de tercer nivel en el periodo comprendido del 1 de enero del 2013 y el 31 de diciembre del 2014.

Material y métodos: Revisión del expediente electrónico de pacientes de Cirugía General en un hospital de tercer nivel durante el periodo comprendido entre el 1 de enero del 2013 y el 31 de diciembre del 2014. Se estableció una muestra a conveniencia de 728 pacientes dividida en grupos: grupo 1 n=728, para estudio epidemiológico; grupo 2 para evaluar profilaxis antimicrobiana, n=638, y, finalmente, grupo 3, n=50 para evaluar el desarrollo de cepas multirresistentes en la Unidad de Cuidados Intensivos. Para el análisis estadístico se emplearon SPSS 19, prueba U de Mann-Whitney y ji al cuadrado.

Resultados: Setecientos veintiocho procedimientos (65.9% electivos), 312 hombres y 416 mujeres; el porcentaje de cumplimiento de profilaxis antimicrobiana fue solo del 3.98%; encontramos desarrollo de múltiples cepas resistentes en cuidados intensivos.

Discusión: Una sola dosis profiláctica es efectiva en cirugía; sin embargo, el apego a esta recomendación no es el adecuado.

Conclusiones: No existe un adecuado apego a las guías de profilaxis en nuestro medio. Existe una asociación significativa entre el desarrollo de infecciones nosocomiales por gérmenes multirresistentes y el ingreso a la Unidad de Cuidados Intensivos.

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Introduction

Surgical site infections are defined as infections related to the surgical procedure that are produced near the surgical incision within the first 30 days after the surgical procedure or within one year (in the case of implants) if the implant is left in place.¹ The criteria for defining surgical site infection are the following:

- Superficial incisional infection: this is produced within the first 30 days after surgery and involves the skin or subcutaneous cellular tissue, presenting: 1) purulent drainage, 2) isolation of microorganisms obtained through culture with the aseptic technique, and 3) at least one of the following symptoms: signs of local infection, pain, hypersensitivity.

- Deep infection: within 30 days after surgery (one year in the case of implants or prostheses) and clinical evidence of infection and/or positive culture.
- Organ or surgical space infection: they include clinical data and/or positive culture of the areas manipulated during the surgical procedure.

The World Health Organization defines hospital-acquired infection as that which is contracted during hospital stay in a patient with no previous or added infection.¹ They are infections that are contracted in the hospital, but manifested after release from the hospital.

Multi-drug resistant germs are those microorganisms that are resistant to 2 or more groups of antimicrobial agents.

Antimicrobial prophylaxis includes the administration of antimicrobial agents for preventing surgical site infection. Current antimicrobial prophylaxis guidelines¹ state that studies in the literature have an important limitation for

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