

Antimicrobial Susceptibility of Gram Positive and Gram Negative Bacteria: A Retrospective Analysis at a Governmental Hospital in Al Qassim, Saudi Arabia

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SUMMARY. The present study aimed to explore the antimicrobial susceptibility of Gram positive and Gram negative bacteria at a governmental hospital in Al Qassim, Saudi Arabia. The study included collecting the results of susceptibility test of different bacterial isolates to antibiotics from the microbiology department. Most of the isolates were for Gram negative bacteria (61.57%). The susceptibility of *Enterococcus faecalis*, *Enterococcus faecium*, *Staphylococcus epidermidis*, *Staphylococcus haemolyticus*, *Staphylococcus hominis*, *Proteus mirabilis*, and *Salmonella* to numerous antibiotics was less than 50%. All of these bacteria were multidrug-resistant bacteria. On the other hand, the antimicrobial susceptibility of *Acinetobacter baumannii* complex was less than 50% to all but two antibiotics. The present study showed a high rate of bacterial non-susceptibility to different antibiotics and showed that there were several infections caused by multidrug resistant Gram positive and Gram negative bacteria in Qassim and numerous infections caused by extensively drug-resistant *Acinetobacter baumannii* bacteria.

RESUMEN. El presente estudio tuvo como objetivo explorar la susceptibilidad antimicrobiana de bacterias Gram positivas y Gram negativas en un hospital gubernamental en Al Qassim, Arabia Saudita. El estudio incluyó la recogida de los resultados de las pruebas de susceptibilidad de diferentes aislados bacterianos a los antibióticos del departamento de microbiología. La mayoría de los aislamientos fueron para bacterias Gram negativas (61,57%). La susceptibilidad de *Enterococcus faecalis*, *Enterococcus faecium*, *Staphylococcus epidermidis*, *Staphylococcus haemolyticus*, *Staphylococcus hominis*, *Proteus mirabilis* y *Salmonella* a numerosos antibióticos fue inferior al 50%. Todas estas bacterias eran bacterias multirresistentes. Por otro lado, la susceptibilidad antimicrobiana del complejo *Acinetobacter baumannii* fue inferior al 50% a todos los antibióticos excepto a dos. El presente estudio mostró una alta tasa de no sensibilidad bacteriana a diferentes antibióticos y mostró que había varias infecciones causadas por bacterias Gram positivas y Gram negativas multirresistentes en Qassim y numerosas infecciones causadas por bacterias *Acinetobacter baumannii* extremadamente resistentes a los medicamentos.

KEY WORDS: antimicrobial susceptibility, bacterial resistance, Gram negative bacteria, Gram positive bacteria.

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