



## Drug resistance analysis of bacterial strains isolated from burn patients

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**ABSTRACT.** This study aimed to analyze the spectrum and drug resistance of bacteria isolated from burn patients to provide a reference for rational clinical use of antibiotics. Up to 1914 bacterial strain specimens isolated from burn patients admitted to hospital between 2001 and 2010 were subjected to resistance monitoring by using the K-B paper disk method. Retrospective analysis was performed on drug resistance analysis of burn patients. The top eight bacterium strains according to detection rate. A total of 1355 strains of Gram-negative (G<sup>-</sup>) bacteria and 559 strains of Gram-positive (G<sup>+</sup>) bacteria were detected. The top eight bacterium strains, according to detection rate, were *Acinetobacter baumannii*, *Pseudomonas aeruginosa*, *Staphylococcus aureus*, *Escherichia coli*, *Staphylococcus epidermidis*, *Klebsiella pneumoniae*, *Enterobacter cloacae*, and *Enterococcus*. Drug resistance rates were higher than 90% in *A. baumannii*, *P. aeruginosa*, *S. epidermidis*, and *S. aureus*, which accounted for 52.2, 21.7, 27.8, and 33.3%, respectively, of the entire sample. Those with drug resistance rates lower than 30% accounted for 4.3, 30.4, 16.7, and 16.7%, respectively. Multidrug-resistant *S. aureus* (MRSA) and methicillin-resistant *S. epidermidis* (MRSE) accounted for 49.2 and 76.4% of the *S. epidermidis* and *S. aureus*

resistance, respectively. Antibacterial drugs that had drug resistance rates to MRSE and MRSA higher than 90% accounted for 38.9 and 72.2%, respectively, whereas those with lower than 30% drug resistance rates accounted for 11.1 and 16.7%, respectively. The burn patients enrolled in the study were mainly infected with G<sup>-</sup> bacteria. These results strongly suggest that clinicians should practice rational use of antibiotics based on drug susceptibility test results.

**Key words:** Burns; Bacteria; Antibiotics; Drug resistance