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Epidemiological of microbial and drug-resistant bacteria in severely burned patients

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Background: Microbial infectious complications continue to be the major cause of morbidity and mortality in burned patients, especially multi-drug resistant microbes' infection. The aim of this study was to conduct clinical epidemiological and microbiological investigations in a tertiary referral medical center.

Methods: This observational study retrospective at a burning department and four vary ICUs of a 3045-bed tertiary referral medical center in Taiwan. The patients with severe burns and need to be hospitalized for treatment and care after an event of the dust explosion were eligible. Those discharged patients if they readmitted to the hospital were excluded. Information was collected about the demographic and clinical characteristics, the severity of the burn, surgery factors, laboratory data and therapeutic devices, etc.

Results: A total of 37 victims, these severely burned patients were 22 male (59.5%) and had a mean age of 22.0 ± 6.2 years. Those had the mean percentage of initial total body surface area (TBSA) 46.1% (range 5-92%); of them, 16 patients (43.2 %) had 50% and more third burn-degrees. There were 4 patients had up to 90% of the TBSA and the third burn-degrees. The most commonly isolated in the microbiota were glucose nonfermenting gram-negative bacilli 34.6%, gram-positive cocci 29% and fungus 15.2%. Of these, the first three isolated species were Staphylococcus sp., Acinetobacter sp. and yeast. The top three of all the rate of antibiotic resistance was the mean percentage of resistance by carbapenem-resistant A. baumannii (imipenem-resistant and pan-drug-resistant), methicillinresistant Staphylococcus aureus and carbapenem-resistant Klebsiella pneumoniae.

Conclusions: Burned patients lose physical barrier coupled with a serious lack of immune function, microbial infection is a common complication. Organized burn care is very important for preventing severely burned patients from microbial and drug-resistant infections.

Biography

Chen, Yin-Yin completed a master degree and a PhD in epidemiology at National Yang-Ming University. She worked in the department of infection prevention and control in 3045-beds Taipei-Veterans General Hospital located in northern Taiwan. Currently, she is the director of infection control practitioners in this department. Her research studies focus on epidemiology and cost of health-care associated infections, in which she investigated the prevalence of and risk factors for healthcare-associated infection and multi-drug resistant pathogens.

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