

The Epidemiology of Primary Microbial Colonisers of Acute Burn Wounds: A Retrospective Review

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Infection is the leading cause of major morbidity and mortality in severe burns. Currently there is no consensus regarding the use of prophylactic intravenous antibiotics (IVAB) in the management of new burns. It is widely believed that Gram-positive bacteria appear at 48 hours after the initial burns, followed by Gram-negative bacteria and yeasts. However, there is limited data regarding the primary microbial colonisers of burn wounds appearing within the first 24 hours of injury, as it is widely surmised that these wounds are initially sterile. This paper aims to describe the primary microbial colonisers of burn wounds found within the first 24 hours of burn injury.

Patients who were admitted at our institution within 24 hours of burn injury and had wound swabs or tissues obtained within this time frame from January 2013 to December 2014 were included. 219 patients met inclusion criteria. The study revealed that bacterial colonisation reached 45.6% within the first 24 hours. Out of the total 231 positive cultures obtained from 100 patients, 33% were Gram-positive; 30% were Gram-negative; 36% were normal skin flora; and 1% were others. 35 out of 100 patients had polymicrobial colonisation.

The associated risk factors and morbidity of patients who yielded positive cultures within the first 24 hours of burn injury will be reported. Furthermore, the details of the use of prophylactic IVAB administered to the study population and results of subsequent cultures obtained in the first week of burn will be presented.

Key Words

Microbial colonization; prophylactic antibiotics

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