

## Pattern of bacterial and fungal infections in neutropenic pediatric patients

Saeidpour, M.<sup>a</sup>, Hamedī, A.K.<sup>a</sup>, Hanachi, P.<sup>b</sup>

<sup>a</sup> Department of Pediatrics Hematology and Oncology, Imam Reza Hospital, **Mashhad University of Medical Sciences, Mashhad**, Iran

<sup>b</sup> Department of Biomedical, Women Research Center, Alzahra **University**, Tehran, Iran

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### Abstract

**Backgrounds:** Neutropenia can be associated with life-threatening infections. Gram negative and staphylococcal infections are the most common pathogens. The spectrum of bacterial isolates has changed considerably over the past four decades. The objective of the present study was to evaluate the pattern of bacterial and fungal infections in neutropenic pediatric patients. **Methods:** A non-randomized descriptive and cross-sectional study involving ۱۰۰ hospitalized children was carried out at the emergency and pediatric hematology and oncology units of hospitals affiliated to Mashhad University of Medical Sciences from September ۲۰۰۴ to September ۲۰۰۵. Neutropenic children younger than ۱۲ years old with clinical signs of infection and/or fever were enrolled in the study. **Results:** The study comprised of ۱۰۰ febrile and/or infected neutropenic episodes occurring in ۵۷ male and ۴۳ female children younger than ۱۲ years old with a mean age of ۴,۵۵±۳,۳۳ years. A total of ۸۷ pathogens were cultured: ۳۷ (۴۲,۵%) from urinary tract and ۵۰ (۵۷,۵%) from other sites; ۵۴ (۶۲,۱%) were gram-negative bacteria, ۲۱ (۲۴,۱%) were gram-positive bacteria, and ۱۲ (۱۳,۸%) were fungus. *Pseudomonas aeruginosa* and *Staphylococcus aureus* were the most frequent gram-negative and gram-positive isolates respectively. *Candida* spp. was the only isolated fungus. Acute lymphoblastic leukemia was the most common disease encompassing ۳۳% of all cases. **Conclusion:** As the patterns of isolates in neutropenic patients are not the same in different parts of the world and gram-negative organisms were still the most common pathogens isolated in our study population, therapeutic adjustments for empirical antibiotic therapy are likely to be focused on gram-negative pathogens.

### Reaxys Database Information

### Author keywords

Children; Fever; Infection; Neutropenia

### Indexed Keywords

**EMTREE medical terms:** acute lymphoblastic leukemia; article; bacterial infection; *Candida*; child; controlled study; disease severity; female; Gram negative bacterium; Gram positive bacterium; human; human tissue; Iran; leukocyte count; major clinical study; male; mycosis; neutropenia; neutrophil count; *Pseudomonas aeruginosa*; *Staphylococcus aureus*; urinary tract infection

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