

Risk factors of invasive candidiasis in children with leukemia

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Abstract

Methods: 512 children with leukemia were analysed: acute lymphoblastic leukemia (ALL) – 310, acute myeloid leukemia (AML) – 76, relapse of leukemia – 126 children. The median age was 7 years. There were 341 boys (67%) and 171 girls (34%).

To determine a statistical significance of risk factors of IC development the following computing methods and importance of distinctions criteria were applied: odds ratio (OR), a confidential interval (CI), criterion p, median (Me).

Results: The frequency of IC was 4.9% (25 patients). The statistically significant risk factors of IC development were the following: relapse of leukemia (OR 0.24, 95% CI 0.06–0.89, $p < 0.001$), treatment of relapse (OR 0.24, 95% CI 0.06–0.91, $p < 0.001$), duration of neutropenia ($< 0.5 \times 10^9/l$) more than 14 days (OR 0.35, 95% CI 0.08–1.51, $p = 0.008$), use of carbapenems (OR 0.18, 95% CI 0.06–0.59, $p = 0.002$) and vancomycin (OR 0.23, 95% CI 0.07–0.72, $p = 0.014$).

Conclusions:

1. Risk factors of IC development in children with leukemia were the following: relapse of leukemia, treatment of the relapse, duration of neutropenia more than 14 days, the use of carbapenems and vancomycin for the anti-bacterial treatment.
2. Patients with risk factors of IC should receive systemic antifungal prophylaxis to prevent the development of life-threatening infection.

Keywords: leukemia, children, invasive candidiasis, risk factors