

FEVER

FEVER IN THE IMMUNOCOMPROMISED CHILD

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Abstract: *Fever in the immunocompromised child is a medical emergency, which if left untreated can lead to serious morbidity and mortality. High degree of suspicion, prompt evaluation and management are essential for a successful outcome in children with febrile neutropenia. Although majority of them may not have localizing symptoms or signs, a detailed history and frequent physical examination specifically of the perianal region, central line sites, ear and oral cavity are mandatory to identify source of infection. Blood cultures (adequate volume) are essential in identifying the bug especially when there is no identifiable focus. Risk stratification based on underlying disease, severity of neutropenia and presence of other comorbidities is essential in categorizing the severity and guiding decision on admission or outpatient therapy. Initial stabilization, prompt initiation of appropriate antibiotics (with anti-pseudomonas cover) and adequate supportive care are the cornerstones of treatment. Delay in administering the first dose of antibiotic significantly worsens the outcome. Education of the family as well as the primary pediatrician is important in this regard. Diagnosis and management of such fevers in the ER and the pediatric ward are reviewed along with institutional practices which are of special relevance to the primary pediatrician.*

Keywords: *Neutropenia, Immunocompromised, Malignancy, Hematopoietic stem cell transplant, Culture, Anti-pseudomonas cover.*

Points to Remember

- *High index of suspicion, prompt diagnosis and management are essential in cases of fever in the immunocompromised which is a medical emergency and can present with only fever and subtle or atypical or no clinical signs.*
- *Risk stratification based on underlying disease, degree of neutropenia, expected fall in ANC and underlying medical comorbidities helps in deciding on the need for admission and appropriate antibiotic.*
- *Meticulous physical examination - especially the perianal region, ENT, central line site, to look for focus of infection.*
- *Adequate volume of blood cultures (both via central and peripheral lines) is crucial in identifying the organism, especially in cases where the focus of infection is not identifiable.*
- *Appropriate antibiotic having anti pseudomonas cover, should be administered within the first hour, as delay in giving the first dose of antibiotic increases the morbidity and mortality.*
- *Addition of Gram-positive coverage / empiric antifungal coverage is needed wherever essential*
- *CMV, adenovirus, varicella are common viral infections in post haplo-hematopoietic stem cell transplant setting.*
- *Good supportive care and strict aseptic precautions are important components to ensure successful outcomes.*

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