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abstract

Surviving the Odds: Pediatric Cancer and Dengue in Endemic Regions – Insights from a Tertiary Care Hospital in Karachi, Pakistan

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Incorporating Performance Improvement (PI) Projects in Pediatric Hematology Oncology Cancer Care Services: Experience from a Tertiary Care Center

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Introduction: Dengue fever, a mosquito-borne viral infection, poses a grave health challenge in endemic regions such as Pakistan. Pediatric oncology patients on chemotherapy face heightened vulnerability, as dengue fever frequently mimics febrile neutropenia, complicating timely diagnosis. Moreover, these patients may face more prolonged course and guarded outcomes as compared to the healthy population. Despite its critical impact, data on dengue fever in this high-risk group remain scarce, particularly in Sindh, Pakistan. This study investigates the clinical presentation and outcomes of dengue fever in oncology patients undergoing chemotherapy at our hospital.

Methodology: A retrospective study was conducted from October 2022 to February 2024 at pediatric oncology department, NICH, Karachi. The study included male and female patients aged 0 to 12 years who were diagnosed with malignancy, undergoing curative chemotherapy, and developed dengue fever. Dengue fever was classified as per WHO criteria. Data, collected from medical records, was recorded in a predesigned questionnaire, covering demographics, clinical presentation, laboratory results, complications, and patient outcomes. SPSS version 26 was used for analysis.

Results: Eleven patients aged 3–11 years (median age: 5.5) were diagnosed with dengue fever. Of these, 54.5% were male. Acute lymphoblastic leukemia was the most common primary diagnosis. Dengue fever was diagnosed in 90.9% of patients, with one case of dengue hemorrhagic fever. Most patients (72.7%) were from poor socioeconomic backgrounds. Fever was universal, while 72.7% experienced vomiting, 54.5% had headaches, and 90.9% reported periorbital pain.

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Bleeding was seen in 72.7%, abdominal pain in 54.5%, and no cases of skin rash were reported. All the patients recovered completely.

Conclusion: Pediatric oncology patients are highly vulnerable to dengue fever, with immunosuppression worsening complications. Early detection is vital to improving outcomes. Routine dengue screening in febrile patients in endemic areas can aid diagnosis, optimize management, and reduce morbidity and mortality.