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Scientific Abstract

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Spectrum Of Imaging Findings In Children With Febrile Neutropenia

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Objective: To study the spectrum of imaging findings in children with febrile neutropenia (FN) and assess the usefulness of imaging in localization and treatment of infective focus.

Methodology: The study included 63 FN episodes occurring in 54 children with a known hematological disease. USG abdomen and chest radiography (CXR) was done in 62 and 59 episodes respectively. CT chest, abdomen and paranasal sinuses was done in patients who did not respond to or worsened with empirical antibiotic treatment. The imaging findings were correlated with clinical and microbiological findings.

Results: 73% patients had signs and symptoms localizing the infective focus, with respiratory being the most common. CXR had a sensitivity of 36% with a high PPV of respiratory signs and symptoms. USG abdomen, revealed an infective focus in 22% episodes. CT chest revealed abnormalities in 69.7% episodes with normal CXR. CT abdomen revealed abnormality in 31% (all of which were documented on USG) and CT PNS in 78% but it did not lead to alteration in therapy in any. Etiological characterization based on imaging findings was possible in 50% episodes. Most common etiology was fungal followed by bacterial and tubercular, with hab sign in approximately 80% cases of invasive fungal disease. Bacterial pneumonias predominantly showed unifocal or multifocal consolidation.

Conclusion: Targeted CT based on localizing symptoms is justified in children with FN. In patients with no localizing signs and symptoms, instead of CT chest abdomen and PNS, CT chest, PNS along with USG abdomen could be considered, reserving CT abdomen for cases with suspected complications.