The Significance of Computed Tomography in Diagnosing Pediatric Tuberculosis

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Abstract

Pediatric tuberculosis (TB) presents unique diagnostic challenges due to various factors, including the low sensitivity of sputum examination, difficulties in obtaining samples, and the presence of paucibacillary forms of the disease. This retrospective-descriptive study aimed to evaluate the role of Computed Tomography (CT) in diagnosing pediatric TB. A total of 142 pediatric TB cases were analyzed using CT scans. The most common CT finding was enlarged lymph nodes, observed in 86% of cases. Other notable findings included nodules (38%), parenchymal consolidation (27.5%), bilateral dissemination (2%), destructive changes (5%), pleural effusion (3%), Tree-in-bud appearance (1.5%), ground glass opacities (3.5%), bronchiectasis (2%), atelectasis (2%), calcifications in intrathoracic lymph nodes (6%), and calcifications in lung parenchyma (3%). These CT patterns played a crucial role in the accurate and timely diagnosis of pediatric TB, aiding in differentiating it from other conditions and facilitating the initiation of appropriate antituberculosis treatment. The integration of CT in pediatric TB diagnosis offers several advantages. It provides precise lesion localization, allows differentiation from anatomical landmarks, and enables comprehensive evaluation of the disease, especially in cases involving intrathoracic lymph nodes. By providing valuable anatomical and pathological information, CT enhances clinical decision-making and improves the management of pediatric TB cases. In conclusion, CT examination plays a vital role in the diagnosis of pediatric TB. Its ability to provide detailed imaging findings helps in accurate disease identification, differentiation, and prompt initiation of appropriate treatment.

Integrating CT into clinical practice improves diagnostic accuracy and enhances patient care in pediatric TB cases.

Keywords: pediatric tuberculosis, childhood diseases, computed tomography, tuberculosis diagnostics, enlarged lymph nodes

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