



Faculty of Medicine
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Role of Different Radiological Imaging Modalities in Diagnosis of Underlying Causes of Nocturnal Enuresis

Thesis

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Introduction: Nocturnal enuresis or bedwetting is among the most prevalent chronic diseases in childhood and also represents one of the most feared conditions among children and adolescents due to the associated myths and negative stigmatization.

Aim of the study: to assess the accuracy of different imaging modalities (X-ray and/ or MRI) in diagnosis of underlying causes of nocturnal enuresis.

Subjects and Methods: This was a cross-sectional study conducted in Fayoum university hospital radiology department, from October 2023 to January 2025, including 120 patients from Urological and Pediatrics outpatient-clinics. Patients underwent clinical assessment, laboratory investigations, and radiological evaluation including lumbo-sacral spine and naso-pharynx X-rays. MRI of the lumbar spine was performed if spina bifida was suspected by X-ray.

Results: The mean age of participants was 10.03 ± 2.4 years. X-ray evaluation revealed adenoidal hypertrophy in 13 cases (10.8%) and spina bifida in 16 cases (13.3%), with MRI confirming spina bifida findings. Post-treatment follow-up showed complete resolution in 84.6% of adenoidal hypertrophy cases after adenoidectomy, while 25% of spina bifida cases showed partial or complete improvement with conservative/medical treatment.

Conclusions: Adenoidal hypertrophy is a significant and treatable contributing factor to nocturnal enuresis, with excellent post-surgical outcomes. While spina bifida was detected, its direct causal link to NE appears less strong, suggesting it might often be an incidental finding. Radiological imaging, particularly X-ray for adenoidal hypertrophy and initial spina bifida screening, plays a crucial role in diagnosing underlying causes of NE.

Keywords: Nocturnal Enuresis, X-ray, MRI, Adenoidal Hypertrophy.