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Diagnosis and management of pituitary adenomas in children and adolescents
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Abstract
Background: Pituitary adenomas (PAs) - also now called pituitary neuroendocrine tumours or Pit-NETS - are rare in children and adolescents and exceptional below the age of 10. Most evidence-based high-quality data are derived from larger studies in adult patients. Aims: We will review recent knowledge on the epidemiology, clinical features, diagnosis, and treatment modalities of the different types of pituitary adenomas diagnosed in children and adolescents, emphasizing the many reasons why these cases should be discussed within pituitary-specific multidisciplinary teams with experts from both paediatric and adult practice. Conclusions: Paediatric PA presents multiple peculiarities that may challenge their adequate management. They are overall proportionally larger and more aggressive than in adults, with potential mass effects including hypopituitarism. Hormonal hypersecretion is frequent, resulting in clinical syndromes affecting normal growth and pubertal development. Prolactinomas represent the most frequent subtype of PA found during childhood, followed by adrenocorticotropin (ACTH) and growth hormone (GH)-secreting adenomas, while clinically non-functioning adenomas are exceptionally diagnosed before the age of 16. The occurrence of a pituitary tumour in a young individual should also prompt genetic testing in each case, searching for either germline mutations in one of the known genes that may drive inherited/familial PA (such as the multiple endocrine neoplasia type 1 or MEN1 gene, or the aryl hydrocarbon receptor interacting protein or AIP gene), or for a mosaic activating mutation of GNAS as found in the McCune-Albright syndrome.

Author Keywords
acromegaly; aryl hydrocarbon receptor interacting protein; childhood; Cushing's disease; multiple endocrine neoplasia type; non-functioning pituitary adenomas; pituitary neuroendocrine tumours; prolactinoma

Index Keywords
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