Brain MRI in evaluation of endocrine diseases of childhood: causal and incidental lesion

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Background
Brain MRI is an essential tool in the diagnosis of neuroendocrine disorders and aims at detecting anatomical abnormalities and tumors. However, it may lead to the identification of unrelated or questionably related abnormalities in the hypothalamic-pituitary region and/or the rest of the brain parenchyma.

Objectives
To establish the prevalence of causal lesions on brain MRI of children evaluated for hypopituitarism, assess the frequency and nature of incidental.

Methods
Retrospective single-center study based on the analysis of brain MRI realized with focus on the pituitary region (radiological protocol) from January 1st 2007 to December 31st 2008 for suspected hypopituitarism.

Results

Conclusion
Brain MRI performed in the context of anterior pituitary hormone deficiency identified a causal lesion in 3.2% but detected incidental unrelated MRI abnormalities in a large proportion of patients, leading to a high number of repeat examinations. Further work should be done to further refine the indications for brain MRI in these patients and avoid unnecessary examinations and the risk of incidental findings.