A case of paediatric GH-secreting pituitary adenoma apoplexy

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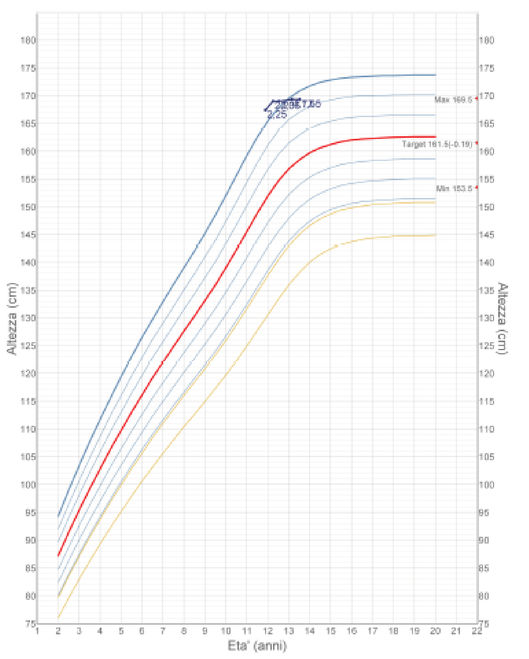
Background

Paediatric pituitary adenomas comprise rare but challenging pathologies in children and adolescents related to their endocrine and neurological features. Pituitary apoplexy is a clinical syndrome caused by hemorrhage or infarction of the pituitary gland and is predominantly seen in patients with pituitary adenomas.

Methods

A 11-year-old girl presented with fever and sudden headache with vomiting. She abruptly developed bilateral hemianopia. On suspicion of infectious meningitis, lumbar puncture and brain MRI were performed on admission.



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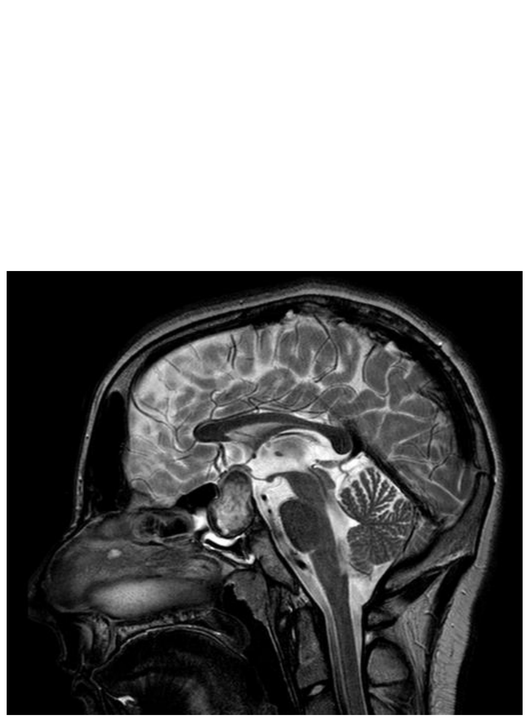
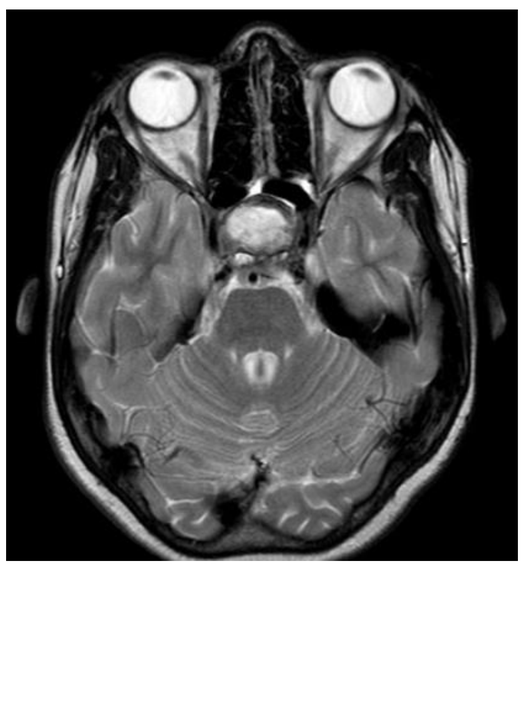
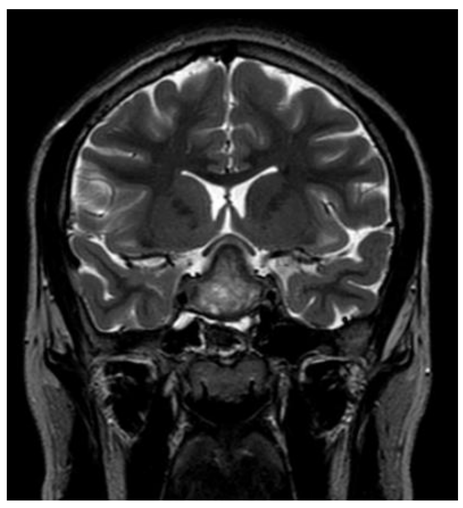
- The physical exam was normal, without neurological abnormalities except for visual disturbances.
- Auxological parameters were >95th percentile (height 2.25 SDS, weight 1.85 SDS).
- Biochemistry laboratory and cerebrospinal fluid analysis were normal.
- Brain MRI showed a 33 mm-sellar and suprasellar mass with pituitary stalk and optic chiasm dislocation and third ventricle compression; it has heterogeneous signal features and contrast enhancement, highly suggestive of hemorrhagic transformation of a pre-existing pituitary adenoma.
- The endocrine investigations demonstrated central hypothyroidism, hypocortisolism, Growth Hormone (GH) deficiency and diabetes insipidus.







- The lesion was surgically removed with a transphenoidal approach.
- The histological examination and immunohistochemical staining were compatible with somatotroph GH-secreting adenoma, diffuse necrosis and hemorrhage areas.
- In the postoperative period, multiple pituitary hormone replacement therapy (hydrocortisone, desmopressin, estrogen and L-thyroxine) was started with good response. GH substitution was started 7 months later.

Conclusions

- Pituitary apoplexy in children and adolescents is a rare entity that requires rapid and adequate treatment to prevent a life-threatening situation.
- Pituitary failure may develop with the effect of adenoma itself or following surgical excision.
- Clinical and laboratory signals may be suggestive and MRI neuroimaging is fundamental for diagnosis.

References

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