# A Rare Case of Pituitary Apoplexy in an Adolescent Male

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## BACKGROUND

Pituitary apoplexy is a rare clinical syndrome caused by hemorrhage or infarction of the pituitary gland, usually within a pituitary tumor. It usually occurs in the elderly , with a slight male predominance and is rare in the pediatric population. Its clinical presentation can be slowly progressive (subacute) or acute and range from asymptomatic to critical when presenting with visual loss and subarachnoid hemorrhage. It may result in severe neurological, ophthalmological, and endocrinological consequences and may require prompt surgical decompression.

## CASE

Our patient is a 17 year old AA tall male (Ht=86%) that was initially seen by neurosurgery with a history of progressive headaches over a period of 7-8 months, fatigue and abnormal brain MRI findings. He also reported sudden episodes of "blacking out" prompted by loud sounds. He did not have any visual complaints. His work up showed hypopituitarism with central hypothyroidism, hypocortisolism, hypogonadism and growth hormone deficiency. Minimally elevated prolactin. The initial brain MRI showed a pituitary mass, measuring 13x14x17 mm with concern for possible hemorrhage in the adenoma.

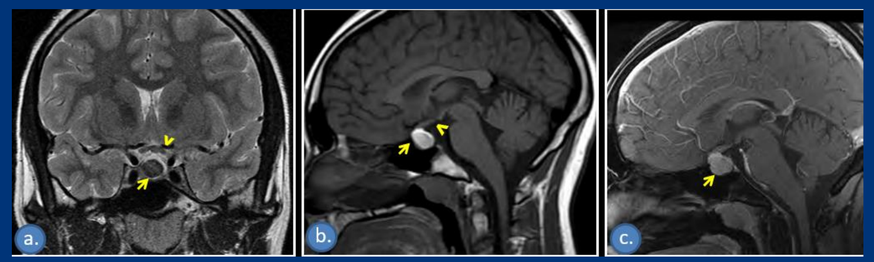


Fig 1. *MRI Brain without and with IV contrast. a. Coronal T2-weighted, shows a hypointense and large circumscribed mass in the pituitary gland (arrow), slight upward lifting of the optic chiasma (^). b and c. Sagittal T1-weighted without and with contrast respectively, the pituitary mass is homogenously hyperintense (arrow) without significant enhancement.*

He was started on maintenance and prn stress doses of hydrocortisone and subsequently thyroid hormone and testosterone gel with improvement of symptoms. Decision was made to proceed with endoscopic transphenoidal hypophysectomy. There were no complications, (i.e., DI). The pathology report described an "organizing hematoma and fragments of sinus mucosa."

Table. Timeline of hormonal values (*2 days off hydrocortisone)

| | Initial | 3 months of treatment | 2 months post-op | Normal values |
|---|---|---|---|---|
| LH (mIU/ml) | 1.1 | - | - | 0.4-7 |
| FSH (uIU/ml) | 1.9 | - | - | 2.6-11 |
| Cortisol (ug/dL) | 5.1 | - | 1* | 6.2-19.4 |
| ACTH (pg/ml) | 23 | - | 9.3 | 7.2-63.3 |
| TSH (uIU/ml) | 1.7 | 0.299 | 0.086 | 0.45-4.5 |
| FT4 (ng/dL) | 0.72 | 1.16 | 1.59 | 0.93-1.6 |
| IGF1 (ng/ml) | 74 | - | 82 | 153-542 |
| IGFBP-3 (ug/L) | 3316 | - | 3680 | 2657-6319 |
| Testosterone (ng/dL) | 18.4 | 208.1 | 75 | 350-970 |
| Prolactin (ng/ml) | 31 | 12 | | 3-18 |

Due to intermittent headaches an MRI was done 6 months post-op showing a 17x15x16 mm mass, possibly a cystic macroadenoma vs. a complex Rathke's cleft cyst. He continues to require hormonal supplementation.

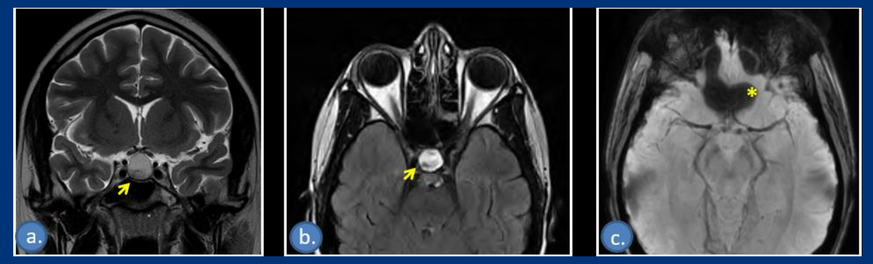


Fig 2. *MRI Brain without and with IV contrast. There is a cystic intrasellar or suprasellar mass (arrow). a and b. The mass shows a grossly stable post surgical appearance, being intermediated signal on T2-weighted and hyperintense on FLAIR. c. Axial GRE* shows diffuse susceptibility artifact, suggestive of blood products (*)*

## CONCLUSION

Whether the surgery performed only partial resection of the mass or this represents a regrowth remains to be seen. Reoccurrence of lesions have been reported but usually after years of initial diagnosis. Repeated pituitary function will allow us to determine need for hormone replacement over time since resolution of existing deficiencies or development of new ones have been reported. In general adolescents seem to have more indolent symptoms and better outcomes compared to adults.

Pituitary apoplexy remains a diagnostic and therapeutic challenge and specific guidelines are lacking. The outcome is highly variable and the optimal time of surgery is still a matter of debate.

## REFERENCES

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2. C. Chao et al., Pituitary Apoplexy in a Teenager -Case Report. Pediatric Neurology 2014
3. A. Albani et al., Multidisciplinary Management of Pituitary Apoplexy. International Journal of Endocrinology 2016