

MRI Imaging of Craniopharyngioma

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Case Report

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Abstract

It is a benign epithelial tumour arising from squamous cell rests in the sellar or suprasellar region arising from involuted Rathke-hypophyseal duct. We present two cases one 18 year old female another 12 year female with characteristic MR imaging features.

Keywords: Cystic; Supresellar

Abbreviation: MRI: Magnetic Resonance Imaging; FLAIR: Fluid-Attenuated Inversion Recovery; GRE: Gradient Recalled Echo.

headache, vomiting and visual disturbances in the form of hemianopsia. MRI images [1-3] show a well-defined multiloculated multicystic supra-sellar mass with enhancement of solid component and wall on post gadolinium images (Figures 1(A-H)).

Case 1

We present a case of 12 year female presenting with

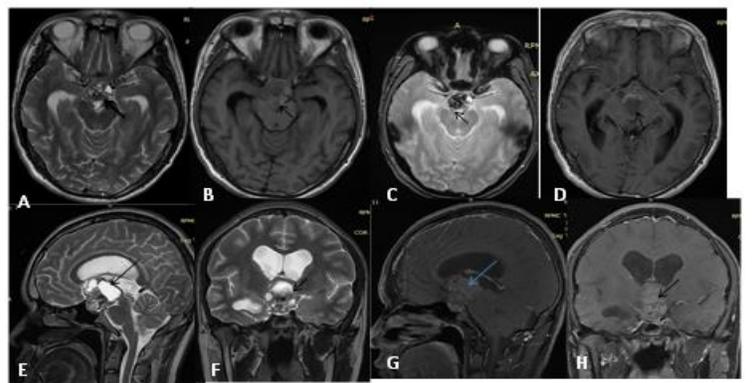


Figure 1(A-H): A 12 year old female presenting with headache and vomiting for 5 months MR images shows multiloculated solid cystic mass in suprasellar region which is obliterating the 3rd ventricle and causing lateral ventricle prominence as seen in axial T2W, T1W, GRE, POST CONTRAST (A-D); Saggital T2W, POST CONTRAST (E,G); Coronal T2W and POST CONTRAST (F,H): shown by arrow. Axial GRE Image clearly shows area of blooming. On post-contrast images it shows enhancement of the solid component.

Case 2

The 2nd case of 18 year female presenting with headache and vomiting MRI was [2,3] done which shows

multiloculated solid cystic mass in suprasellar region which is obliterating the 3rd ventricle and causing lateral ventricle prominence. On post-contrast images it shows enhancement of the solid component (Figures 2(A-I)).

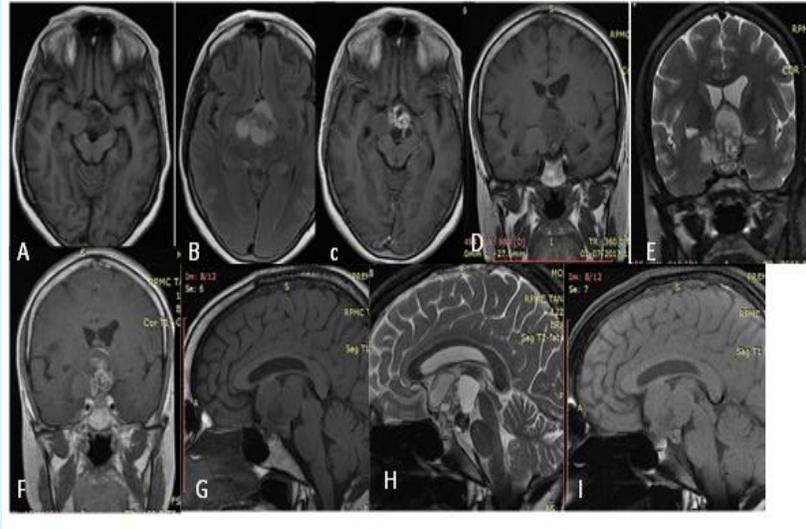


Figure 2(A-I): A 12 year Female child presenting with headache, vomiting and visual disturbances MRI images shows a well-defined multiloculated multisystem supra-sellar mass with enhancement of solid component and wall on post gadolinium images. The Axial T1W, FLAIR, POST CONTRAST (A-C): Coronal T1W, T2W and POST CONTRAST (D-F): Saggital T1W, T2W and POST CONTRAST (G-I): and wall on post gadolinium images.

Discussion

It is a benign epithelial tumour arising from squamous cell rests in the sellar or suprasellar region arising from involuted Rathke-hypophyseal duct [2,4].

Clinical Presentation

Peak age of presentation is 10-12 in case of adamantinomatous and 45-60 in case of papillary tumours. Most common symptoms are headache, vomiting and visual (bitemporal hemianopsia) and symptoms due to hormonal deficiencies [2,4,5].

Key Imaging Diagnostic Clues

a) Cystic suprasellar mass with enhancing solid component and calcification [1,3,6,7].

Differentials

- Rathke cleft Cyst-no solid component, no calcification
- Macroadenoma-Intrasellar, no calcification

- Teratoma-presence of fat [1,6,7]

The T1 bright signal intensity of craniopharyngiomas could be secondary to high protein content, cholesterol, mild calcification or hemorrhage. Gradient images depict the calcification more clearly as it blooms. There is prevalence of T1 bright signal intensity and calcification on CT scans in the various types of craniopharyngiomas was similar to those reported in previous studies. Cystic change on T2 weighed images was a common finding in both adamantinomatous type and papillary type. In contrast to T1 bright signal intensity and calcification on CT scans, cystic change on T2 weighted images was not helpful for the differential diagnosis between two types.

Conclusion

It is a benign epithelial tumour arising from squamous cell rests in the suprasellar region arising from involuted Rathke-hypophyseal duct [2,4,5]. It has a characteristic MR imaging features i.e. suprasellar, cystic, solid

component which distinguish from other masses in this region [5].

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