Extended Endoscopic Endonasal Approach for Suprasellar Craniopharyngioma

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Abstract

Objectives We illustrate a suprasellar craniopharyngiomas treated with an extended endoscopic endonasal approach (EEEA).

Design Case report of a 43-year-old male affected by cerebral lesion located in suprasellar region involving the third ventricle and compressing the neurovascular structures, causing an anterosuperior dislocation of the chiasma. There is a complete disruption of the pituitary stalk that can explain the clinical finding of partial anterior hypopituitarism and hyperprolactinemia. The lesion is characterized by a solid and cystic component. Considering the absence of lateral extension and the suprasellar location of the lesion, an EEEA is preferred.

Setting University Hospital "Ospedale di Circolo," Department of Neurosurgery, Varese, Italy.

Participants Neurosurgical and ENT Skull Base Team.

Main Outcome Measures A bilateral parasagittal approach is performed using a four-hand technique. The first step of the surgery is the preparation of the Hadad's flap. The approach is extended to the planum sphenoidalis to expose the suprasellar region. The lesion is completely removed employing also an ultrasound aspirator. Skull base reconstruction is performed with three-layer technique: graft of fat tissue, fascia lata, and nasoseptal flap.

Keywords

- endoscopic endonasal extended approach
- craniopharyngioma
- neuroendoscopy
- suprasellar tumor
- endoscopic skull base reconstruction

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Results No postoperative complications occurred. In the post-op, the patient presents a panhypopituitarism and an improvement in neurological status. The visual deficit remains stable. Post-op magnetic resonance imaging at 1 year documents the complete absence of pathological contrast enhancement.

Conclusions EEEA is a feasible approach in treating craniopharyngioma with suprasellar extension. The advantages include optimal visualization, good resection rate, and absence of brain retraction.

The link to the video can be found at: https://youtu.be/IYm-8P1jbBo.

Conflict of Interest
None.

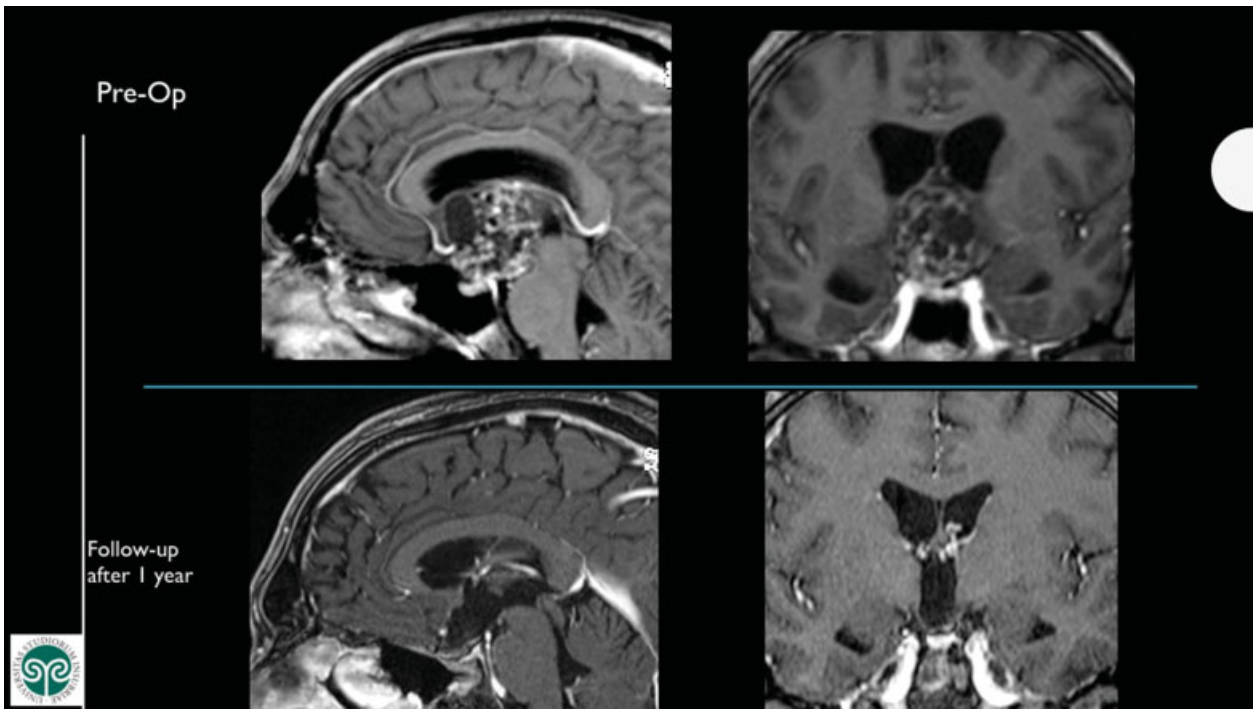

Fig. 1 Pre- and postoperative magnetic resonance images in sagittal and coronal views.

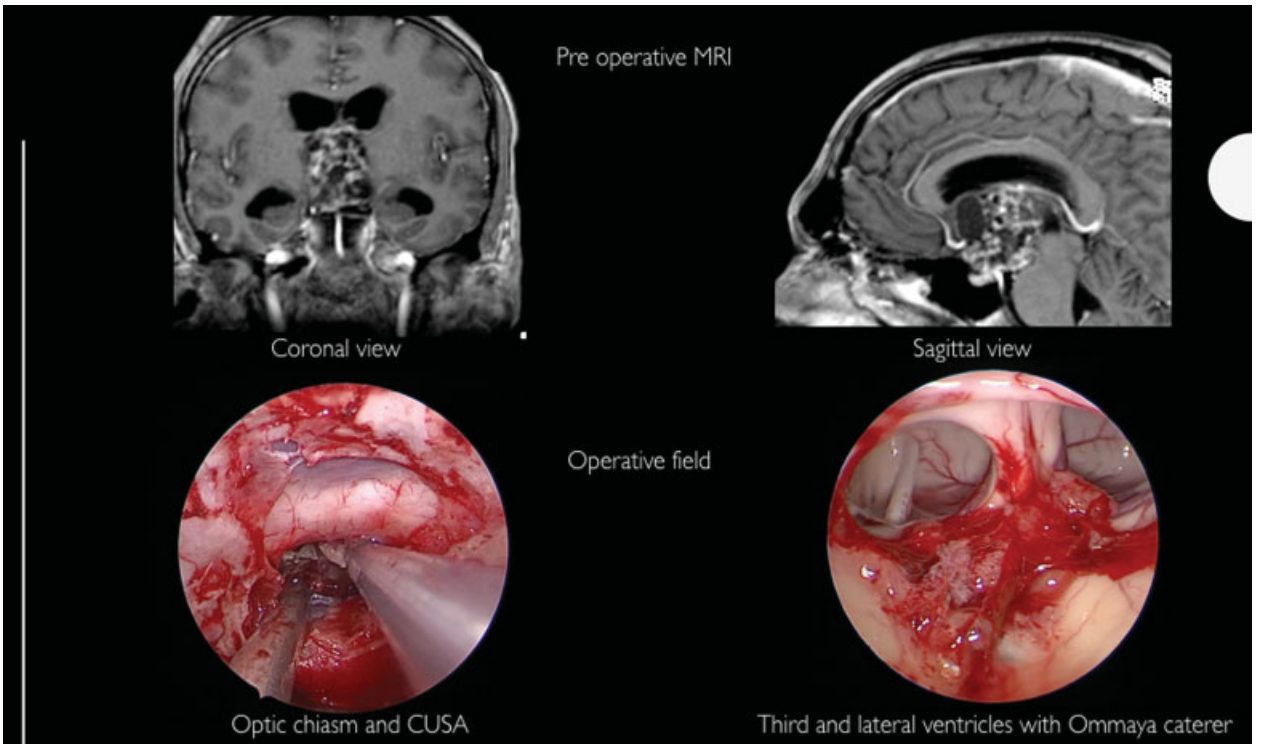

Fig. 2 Preoperative magnetic resonance imaging (MRI) and intraoperative images of surgical field.