

ical function<sup>5</sup>. We recommend that patients who present with advanced neurological deficits should undergo early decompression even with adequate chemotherapy, since the intramedullary location and expansion of the cord with demyelinating destruction of tracts could worsen the clinical status.

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## GRANULOMA INTRAMEDULAR SUGESTIVO DE TUBERCULOZA

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# Anchored fat-fascia graft for clival skull base reconstruction

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Wound closure after posterior cranial fossa surgery through the clivus remains a challenge. A multilayer closure was suggested by some authors<sup>1,2</sup>. On the other hand, a multilayer reconstruction may not be achieved in patients with clival defects; in this region, gravity may displace the inlay grafts downwards. We developed a technique that allows layered reconstruction of skull base defects, especially those located in the clivus.

## CASE

A 14 years-old male presented with headache and a large craniopharyngioma was diagnosed. The lesion had a solid suprasellar component and a large cyst extending inferiorly towards the atlantoaxial region, compressing the medulla (Fig 1A).

The patient underwent to surgery through a trans-sphenoidal endoscopic approach. The bone of the sellar floor, posterior clinoids and clival recess were widely removed using a high-speed drill (Fig 1B). The dura was then opened, followed by drainage of the craniopharyngioma cyst (Fig 1C and 1D). After the cyst drainage there was intense bleeding from the basilar venous plexus, which was managed using Surgicel®.

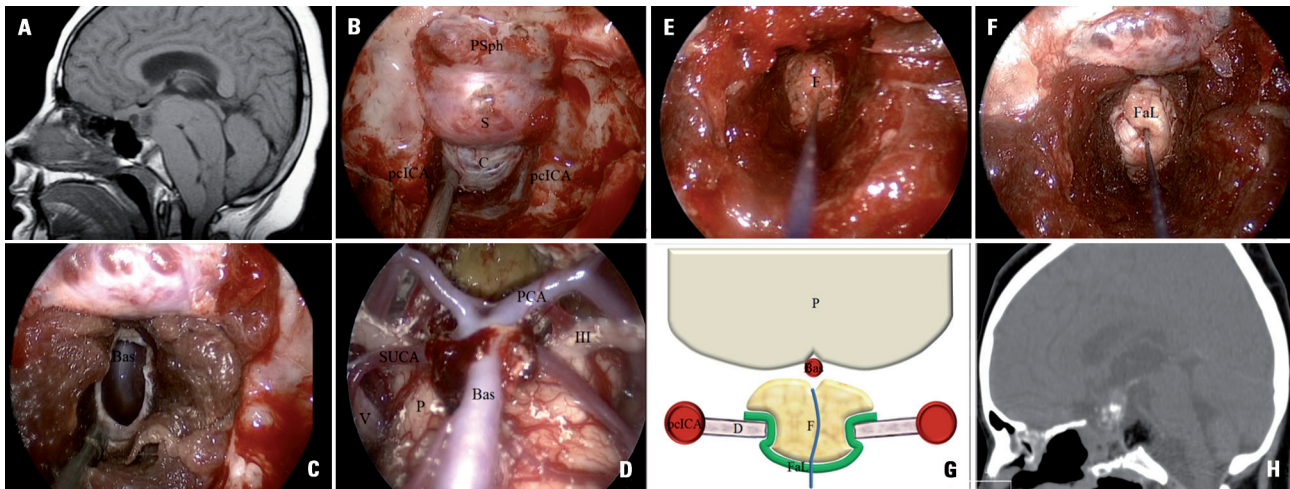
Reconstruction was carried out using a lateral thigh fat graft, with the same shape as the dural defect, but longer. It was anchored with a 4.0 Vicrylsuture. The graft was

reinforced with a rectangular layer of fascia lata, larger than the dural defect. A hole was made in the center of the fascia lata graft, allowing it to be slid up along the suture. The fat graft was pushed intradurally through the defect to pack the tumor cavity and form a buttress for subsequent layers (Fig 1E), followed by the underlay positioning of the fascia lata. The suture was gently tractioned until the fat-fascia graft was pulled beyond the bony margins and sealed the dural defect (Fig 1F). After confirmation of the watertight sealing of the dural defect by a Valsalva maneuver the suture is cut (Fig 1G and 1H). Fibrin glue was then applied and an additional overlay layer of fascia lata was positioned. In addition, the reconstruction was reinforced with a pediculated nasoseptal flap positioned over the margins of the bony defect and Gelfoam. A Folley balloon catheter was left in place supporting the multilayer reconstruction. The patient was discharged on Day 7 postoperatively, with no headache or CSF leak.

## DISCUSSION

Since the introduction of the nasoseptal pedicled flap there has been a sharp decrease in the incidence of postoperative CSF leaks<sup>2,4</sup>. In addition to it, a multilayer reconstruction was adopted by many authors<sup>1-4</sup>, aiming at higher efficacy and reliability in creating a watertight closure.

The anchored fat-fascia graft used in our patient al-



**Figure.** [A] T1 sagittal MRI slice showing a large craniopharyngioma. [B] Intraoperative view of the transclival approach. The bone over the planum sphenoidale (PSph), sella (S) and clival recess (C) has been removed. The exposure was limited by the paraclival segment of the internal carotid artery (pcICA). [C] After opening of the dura, the basilar artery (Bas) was noted at the prepontine cistern. [D] 45° view of the prepontine cistern through the dural opening. Bas: basilar artery; PCA: posterior cerebral arteries; III: oculomotor nerve; SUCA: superior cerebellar artery; V: trigeminal nerve; P: pons. [E] Intradural positioning of the anchored fat graft [F]. [F] Underlay placement of the fascia lata (FaL). The suture is pulled until the dural defect is sealed. [G] Cross-sectional representation of the anchored fat-fascia graft. D: Dura. [H] Immediate postoperative sagittal CT scan.

lowed closure of a large skull base defect. The anchoring of the graft allows it to be pulled until it fits the dural defect, therefore creating a watertight barrier. This technique made use of CSF pressure to push the graft into the defect, keeping the seal tight<sup>5</sup> and embedding the graft into the dural defect.

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## ENXERTO DE GORDURA/FÁSCIA PARA RECONSTRUÇÃO DE DEFEITO CLIVAL DE BASE DE CRÂNIO

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