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Supplemental material

Extra-axial endoscopic third ventriculostomy: preliminary experience with a technique to circumvent conventional endoscopic third ventriculostomy complications
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**Supplementary Fig. 1:** The preoperative and the postoperative images of two patients with acute hydrocephalus secondary to intracerebral haemorrhage. EAETV site is demonstrated by white arrows. Figures 1A represents the images of case 1 having right thalamic bleed with hydrocephalus. Figure 1B represents a postoperative scan showing the resolution of hydrocephalus. The patient developed a minor frontal contusion, seen resolved at the last follow-up scan. Figure 1C represents the images of case 3 with vermian haemorrhage and upstream hydrocephalus. Figure 1D shows the postoperative resolution of hydrocephalus.
Supplementary Fig. 2: The preoperative and the postoperative images of two patients with acute hydrocephalus secondary to aqueductal stenosis. EAETV site is demonstrated by white arrows. Figures 2A & 2B represents the preoperative and the postoperative images of case 2. Figure 2C & 2D are preoperative and postoperative images of case 5. The patient underwent the first ventriculoperitoneal shunt thirty years back for aqueductal stenosis. Since then, he underwent three revisions of shunt and two external ventricular drain surgeries. After EAETV, the hydrocephalus has resolved.
Supplementary Fig. 3: Two cases of acute hydrocephalus, managed by Extra-Axial Endoscopic Third Ventriculostomy (EAETV). EAETV site is marked with white arrows in figures B, and D. Figure 1A represents the images of case 4 with right cerebellar haemorrhage with the fourth ventricle compression resulting in hydrocephalus. The patient underwent posterior fossa decompression followed by EAETV in the same sitting. Figure 1B shows the postoperative resolution of hydrocephalus. Figures 1C & 1D are preoperative (CT scan and FLAIR MRI) and postoperative images of case 6. The ventricular dilatation along with periventricular lucency is seen. After EAETV, his symptoms and hydrocephalus resolved.
Supplementary Fig. 4: Two cases of chronic hydrocephalus. Figures 4A & 4B represent the preoperative and the postoperative images of case 7. The aetiology is aqueductal stenosis. In postoperative images, there is a reduction of ventricular indices, along with the opening of subarachnoid spaces. The patient’s symptoms resolved. Figures 4C & 4D are preoperative and postoperative images of case 8. The aetiology is aqueductal stenosis. Postoperative images show a reduction of ventricular indices, along with the opening of subarachnoid spaces. The patient’s symptoms resolved.
Supplementary Fig. 5: Two cases of chronic hydrocephalus managed with EAETV. EAETV site is marked with white arrows in figure B and D. Figures 2A & 2B are preoperative and postoperative images of case 9. The patient has a tectal plate lesion with secondary aqueductal obstruction. EAETV was done first, followed by posterior fossa surgery after two weeks. CSF was unremarkable. At surgery, the posterior fossa was lax on opening, and there was a firm to a hard lesion involving the fourth ventricle floor with low vascularity. The frozen section showed evidence of tuberculosis. Only partial decompression of the lower third part of the
A lesion was done. Aqueductal flow could not be restored. The final histopathology confirmed tuberculoma with calcification. The patient had mild improvement in gait but remains blind. An antitubercular regimen has been started. Figures 2C & 2D are the preoperative and postoperative images of case 10 with aqueductal stenosis. The patient underwent EAETV and has improvement in symptoms and ventricular indices.