

Endoscopic Ventriculocystocisternostomy with Wall Resection for Recurrent Suprasellar Arachnoid Cyst

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Background

Suprasellar arachnoid cysts (SACs) are basal midline masses that can cause hydrocephalus and multiple neurologic deficits. SACs are relatively rare, representing 5-12.5% of all arachnoid cysts, but have higher pediatric incidence. SACs are diagnosed through radiological imaging modalities, primarily CT, and often present unique management problems with long asymptomatic periods before rapidly displaying symptoms requiring surgical intervention. Treatment options include observation, open or endoscopic ventriculocystostomy or ventriculocystocisternostomy, cystoperitoneal shunt, or ventriculoperitoneal shunt. Surgical resection has proven an effective remedy for hydrocephalus, the most commonly reported symptom. Endoscopic fenestration has demonstrated a high success rate, with significantly improved long term efficacy of ventriculocystocisternostomy compared to ventriculocystostomy.

Operation

The operative video in this report demonstrates repeat endoscopic ventriculocystocisternostomy with cyst wall resection of a suprasellar arachnoid cyst. We present the case of a 15-month-old female with progressive head bobbing and roving eye movements who underwent ventriculocystocisternostomy three months prior. Immediate postoperative imaging demonstrated cyst decompression with adequate CSF flow. Subsequent imaging demonstrated reenlargement of the suprasellar arachnoid cyst and absent CSF flow with early signs of obstruction. Given recurrence of symptoms, repeat ventriculocystocisternostomy was pursued with emphasis on cyst wall resection that led to the initial closure. Direct endoscopy was utilized to visualize aberrant anatomy for safe performance of the procedure.

Outcomes

Post operative imaging demonstrated good CSF communication. No new neurologic deficits were observed postoperatively. Follow up visit at 3 months, noted improvement in the patient’s symptoms. MRI demonstrated continued cyst decompression.

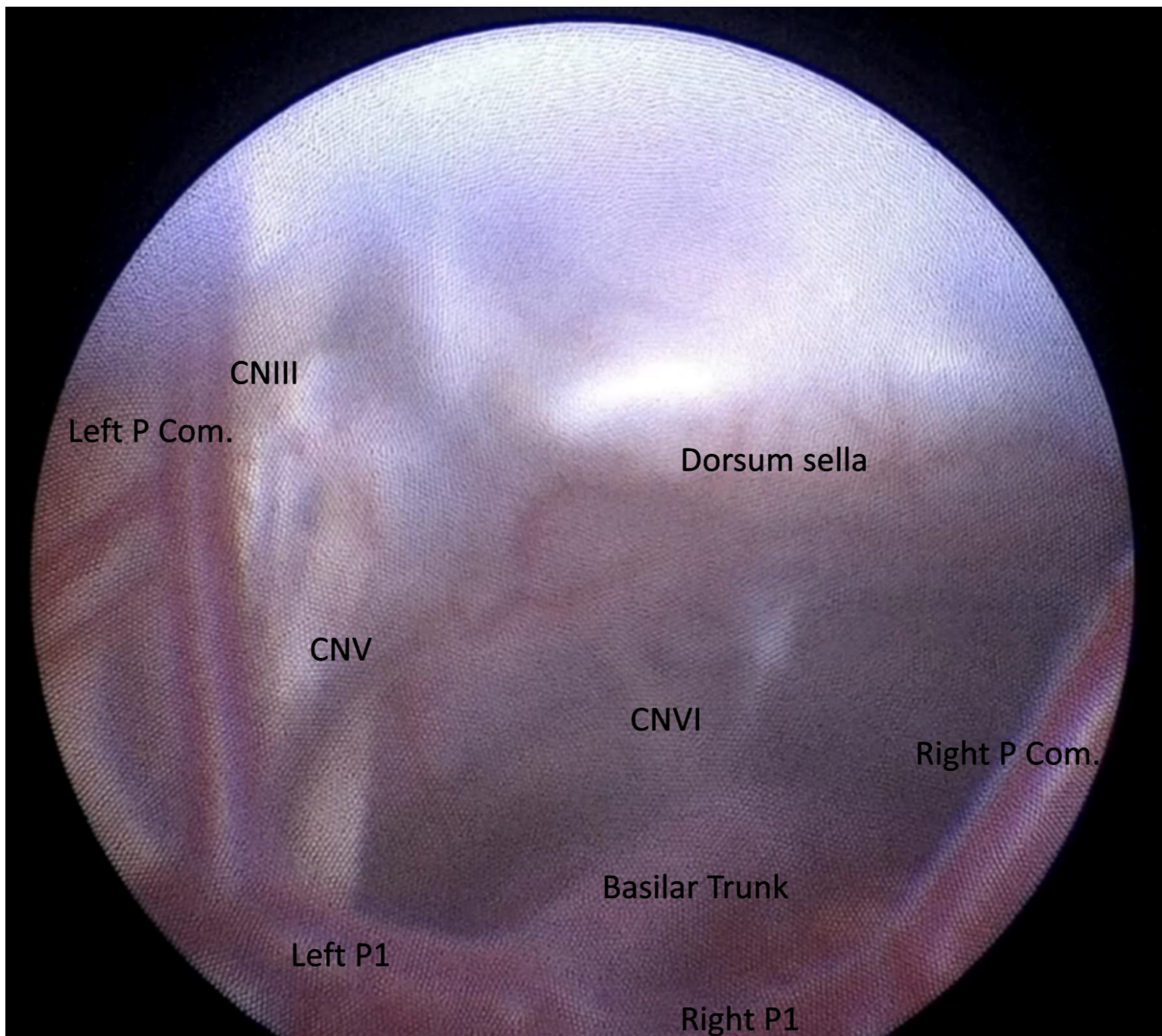


Image 4. Repeat operation, endoscopic view gripping cyst wall

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Imaging

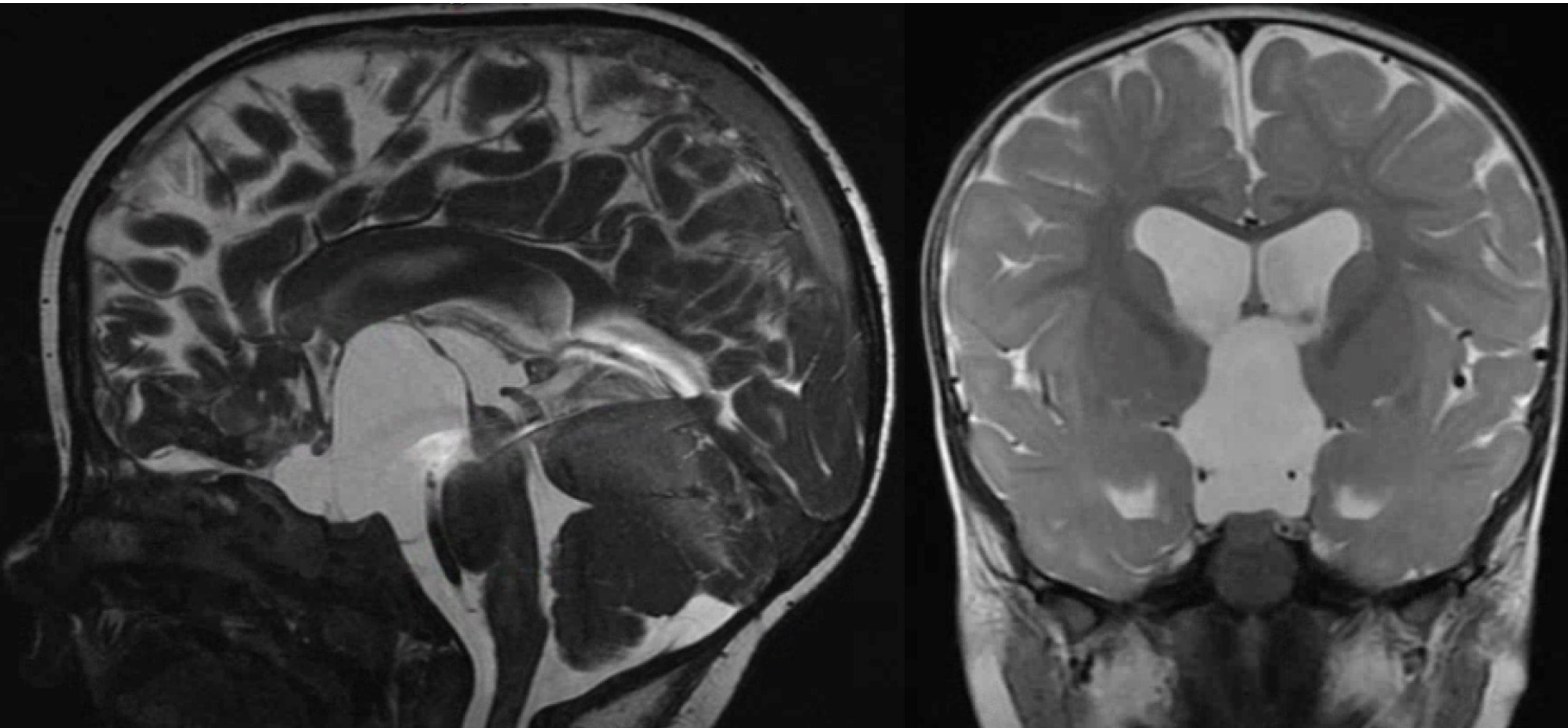


Image 1. Initial operation, preoperative scans demonstrating early hydrocephalus

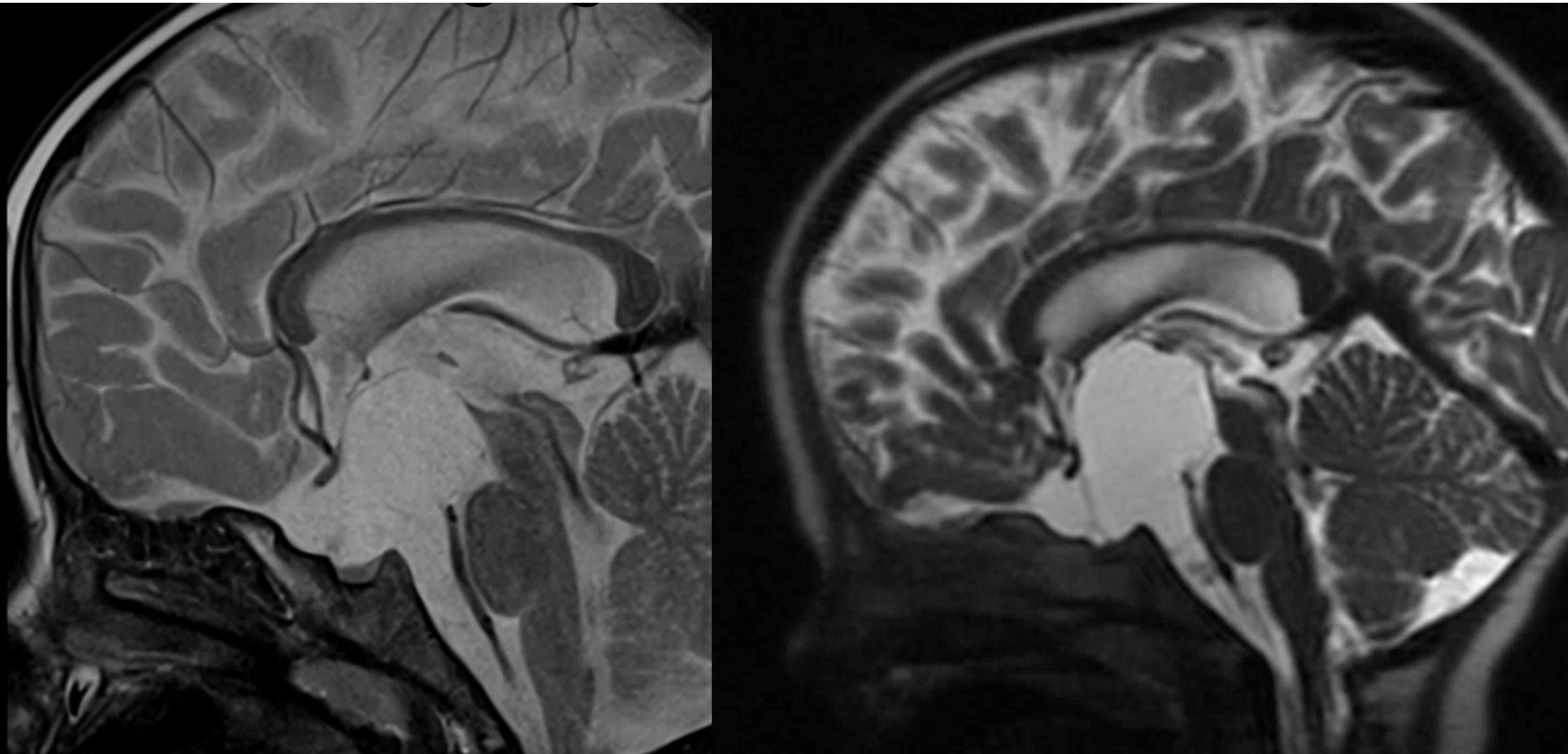


Image 2. Initial operation, 30 day [left] and 90 day [right] postoperative scans demonstrating cyst enlargement and lack of flow

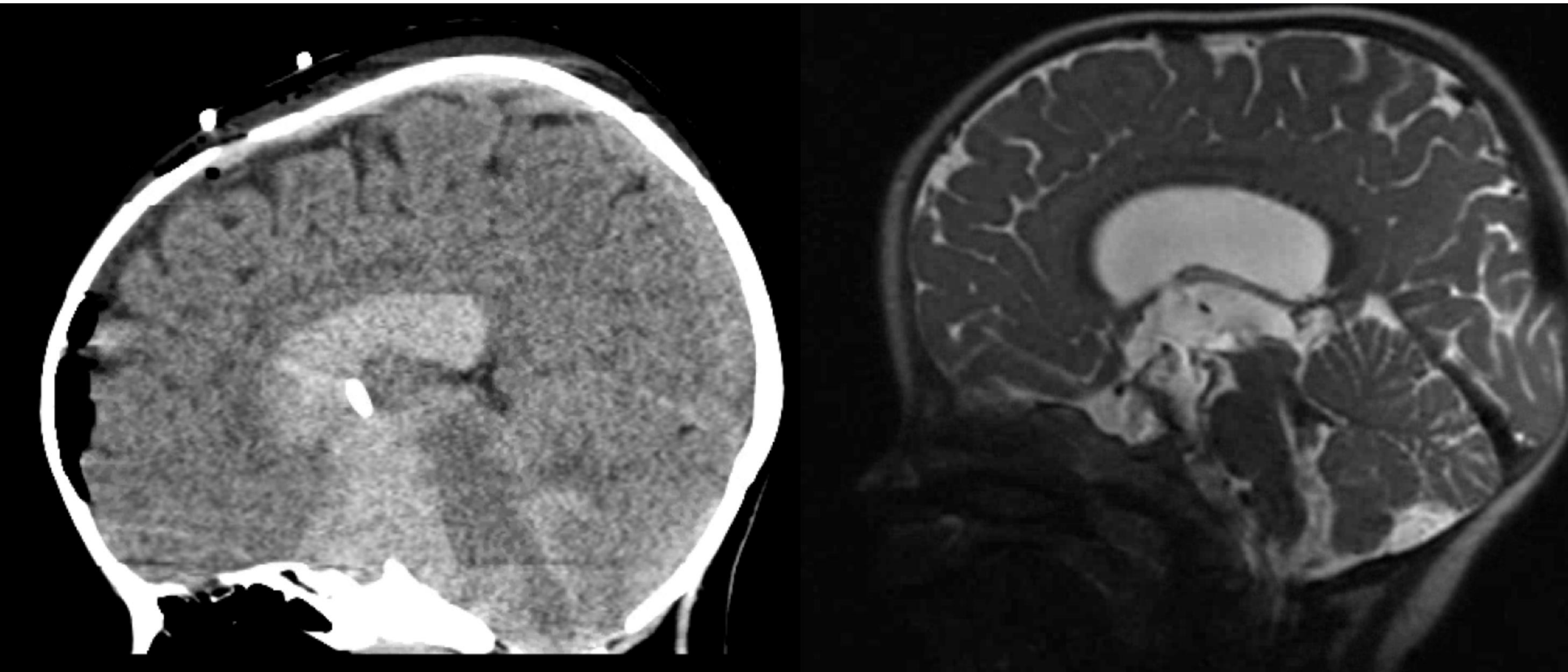


Image 3. Repeat operation, postoperative CT scans with iodinated contrast demonstrating good flow and lack of cyst recurrence [right scan is 6 weeks post-op]

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