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Cranial Migration of Ventriculo Peritoneal Shunt: An Unusual Complication

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Abstract Ventriculoperitoneal shunt insertion is a common neurosurgical procedure performed by the surgeons. Complications are numerous but total cranial migration of the shunt is a rare thing to happen. We herewith one case of ours who underwent ventriculoperitoneal shunt for hydrocephalus encountered this complication and was managed accordingly.

Keywords: *shunt complications*

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1. Material and Methods

A 2 month old child was admitted here with multiple congenital anomalies in our hospital. Patient was on colostomy for anorectaal malformation. Patient was having large head. CT brain had revealed dandy walker malformation with hydrocephalus. Patient underwent cystoperitoneal shunt for same and post operative period was uneventful. Postoperative CT was also satisfactory and baby was discharged home. However patient was readmitted with increasing head circumference.

2. Results

Baby underwent a repeat ct brain and to our surprise the whole shunt was seen cranially displaced in the posterior fossa in the dandy walker cyst. After through explanation to the family the patient underwent rexploration and endoscopic removal of the migrated shunt in the posterior fossa was done through old burr hole. New shunt was placed in position well anchored to soft tissues at both ends. Post operative scan was satisfactory. Patient was followed up in OPD and is doing well with shunt holding well till date.

3. Discussion

In 2009 Tarun Agarwal etal mentioned about the unusual compliatations of the ventriculoperitoneal shunts. [1] In 2016 Lyon K etal mentioned about migration of a shunt into pulmonary vasculature. [2] In 2015 Oktay K etal mentioned about spontaneous extrusion of the shunt cathter through lumbar region. [3] In 2018 Badri M reported the trans oral migration of VP shunt. [4] In 2012 Ozturk mentioned about their case of trans anal migration of the shunt. [5] In 2008 Ali MN mentioned about their case of a child with trans cranial migration of the shunt [6].

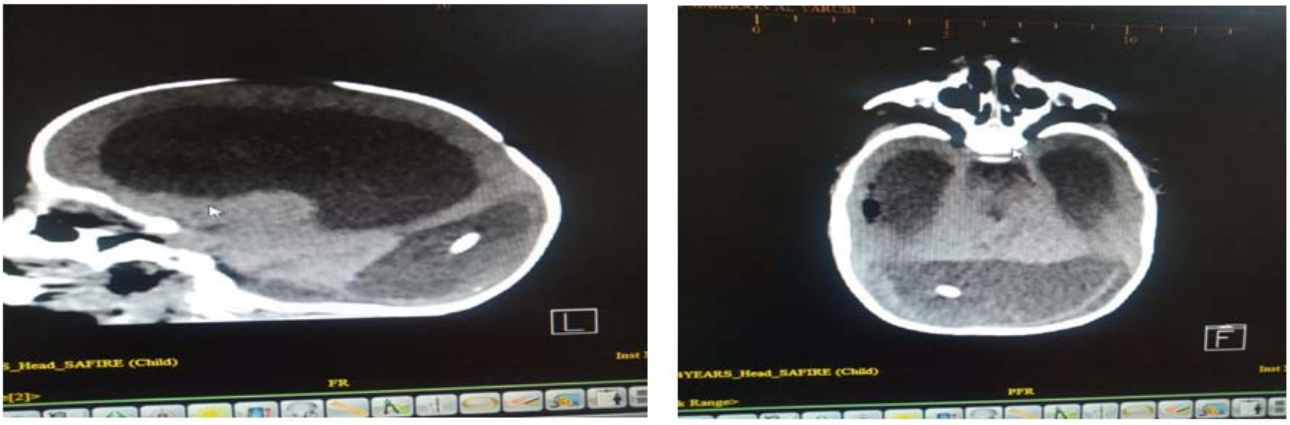

Figure 1. Postoperative CT brain of patient

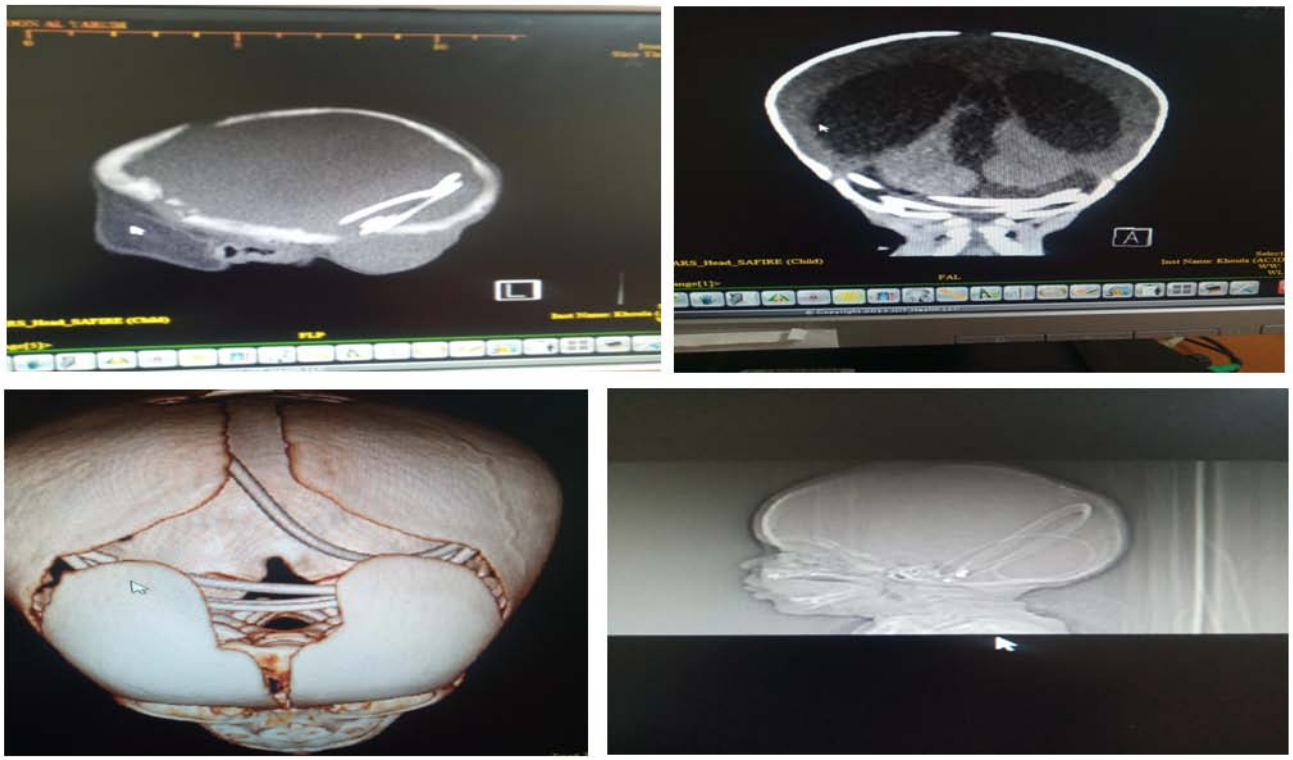

Figure 2. CT showing cranial migration of shunt

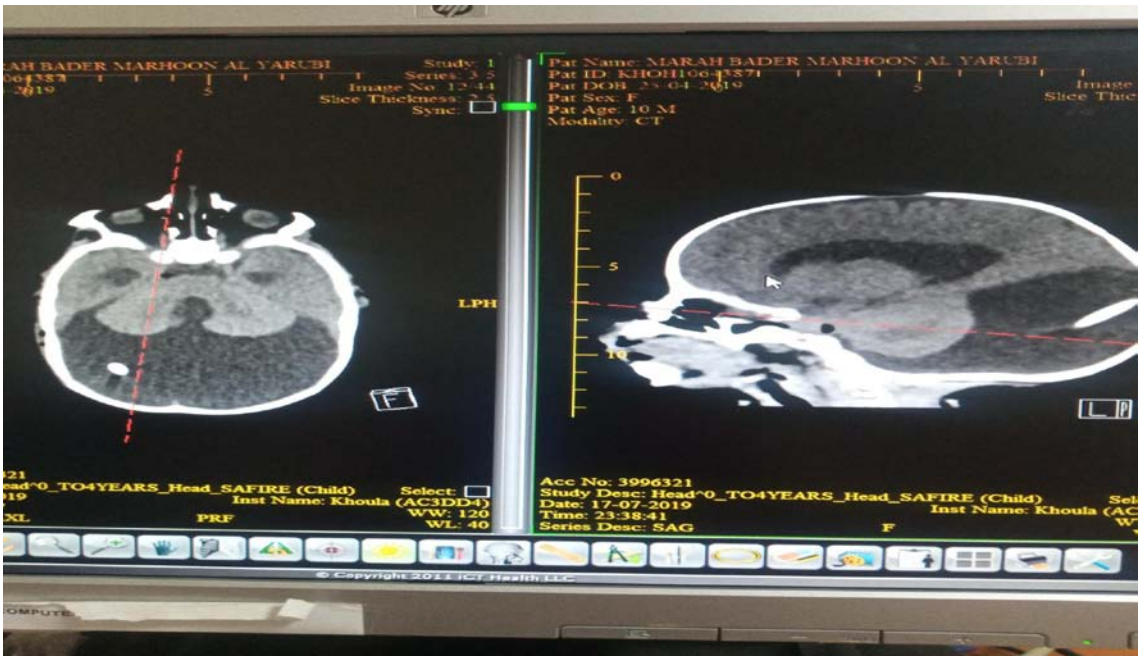

Figure 3. CT showing new shunt placement after endoscopic removal of migrated shunt

4. Conclusion

We attribute factors such as outsized burr hole, wide dural opening, and poor anchoring of the straight connector of shunt chamber to periosteum because of poor tissue preservation (redo operation). Repeated flushing of the shunt chamber by cranial direction pressing on it by the mother might be a contributing factor for loosening of anchor sutures and cranial migration. Patients undergoing VP shunt procedure must be under regular follow-up for early recognition of this potential complication. Cranial migration of VP shunt is usually not a fatal complication.

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