Abnormal Migration Of The Ventricular End Of Shunt Tip Into The Pitutary Fossa

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Citation

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Abstract

Abnormal migration of the ventricular end of a ventrculoperitoneal shunt used for treatment of hydrocephalous is a rare but a known complication. The migration can be in either direction and is most commonly associated with disconnection of ventricular end from its connector. The author here by reports a rare case of migration of shunt tip into pituitary fossa and discusses further course of management in such rare cases.

INTRODUCTION

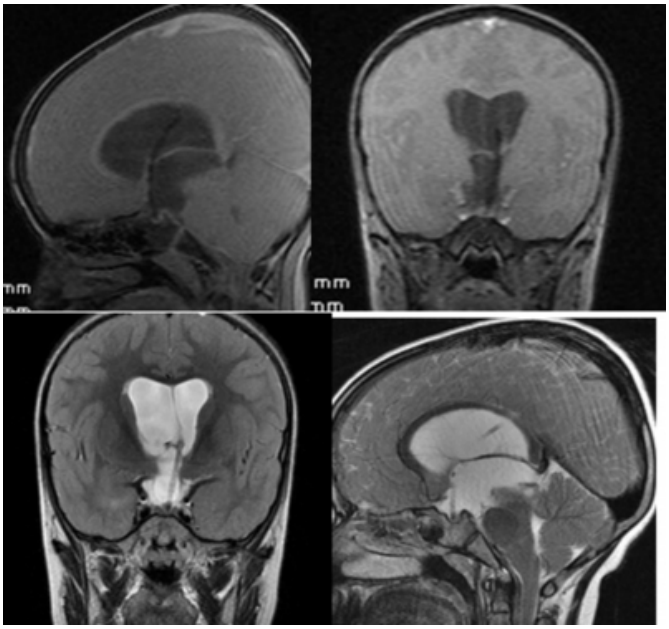
The migration of shunt catheters used in treatment of hydrocephalous is a well known complication[1] . Though this migration can occur in any direction it more commonly involves the lower end of the catheter[1,2,3,4,5]. The direction of migration depends on the pressure gradient between the cranial and peritoneal cavities(5,6). Since former is generally high it accounts for greater number of distal migrations.. However vigorous flexion extension movements of neck in infants and over all small length of ventriculoperitoneal shunt accounts for rare cases of proximal migration of shunts[1,7,8,9,10,11,12,13].

CASE REPORT

A 8yr old male child previously treated for hydrocephalous at age of 1mth presented with complaints of headache, vomiting and diminution of vision. A review of earlier records revealed that he was shunted for post T.B.M hydrocephalous. A non contrast CT head revealed hydrocephalous with abnormal migration of shunt into region of pituitary fossa. A MRI scan was done to confirm the migration of tip in the pituitary fossa . MRI also confirmed position of shunt tip in pituitary fossa. Since the shunt was in place for such a long time it was decided to leave its upper end un disturbed as it might be adherent to surrounding structures and another shunt was put on other side. The child recovered well and post operative scan revealed decrease in size of the ventricles. Since the shunt tip was in the pituitary fossa we investigated the child for any hormonal abnormalities and visual field charting. Hormonal profile was normal and visual field charting showed mild constriction of visual fields.

Figure 1

Figure 1: Images showing position of shunt tip in pituitary fossa



DISCUSSION

Of all the shunt complications reported in the literature intra cranial migration of shunt is one of the rare complications and affects 0.1-0.4% of shunt procedures[1]. It is the distal migration which is more frequent [1,2,3,4,12]. Some factors such as technical fault are necessary with resultant disconnection of ventricular end is necessary for abnormal migration[7,8,9]. Another factor which may contribute to

disconnection and abnormal migration is continuous flexion extension in small children resulting in disconnection. In our case this may have contributed to disconnection and abnormal migration of the ventricular end. Since in most of the cases upper end is adhered to vital structures and forceful removal can cause bleeding it is wiser to leave it in situ and put a shunt from opposite side as was done in this case. During review of literature we could not come across even a single case where shunt tip migrated into pituitary fossa and still didn't produce any visual or hormonal abnormalities. Though there are cases of migration of whole of shunt system into cranial cavity causing symptoms and in some cases remaining asymptomatic.

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