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Case Study

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THORACIC MIGRATION OF VENTRICULOPERITONEAL SHUNT: A CASE REPORT

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ABSTRACT

Complications of ventriculoperitoneal shunts may occur anywhere along their course, from the cerebral ventricle to the peritoneal cavity. Among these potentials, intrathoracic migration of shunts is unusual and potentially serious. The purpose of this paper is to report a case of intrathoracic migration of ventriculoperitoneal shunts because of its rarity.

KEYWORDS: Thoracic migration.

INTRODUCTION

Ventriculoperitoneal shunting (VPS) is a universal treatment for hydrocephalus. Although it is a relatively simple surgery, the overall rate of complications is high, with 33% of patients experiencing some form of complication after shunt placement and 2.7% of these cases leading to death. The most common surgical technique for VPS is to tunnel a shunt passer beneath the skin and, then, send the abdominal catheter through the passer from the head to the peritoneal cavity. The surgeon must ensure that the passer does not enter the thoracic cavity when tunneling from the head incision to the abdominal incision to prevent a complication of pneumothorax. It is taught that the clavicle is the structure around which the most care must be taken when subcutaneously moving from the neck to the thoracic wall. If one avoids entering the thoracic cavity by tunneling the passer through the skin over the clavicle, it is often possible to tunnel the catheter subcutaneously over the ribs afterward without difficulty.

CASE REPORT

This child was admitted in our hospital having born with a lumbar myelomenigocele with hydrocephalus. After counselling the family with nature of disease and likely risks and benefits of surgery patient underwent ventriculoperitoneal shunt with repair of myelomeningocele. Postoperative period was uneventful and patient was followed up in OPD. After 1 year patient was admitted with febrile episode in neighbouring hospital where the chest x ray revealed thoracic migration of VP shunt. Patient's fever had settled and patient was brought to our hospital and paediatric and cardiothoracic surgeons were kept on standby. Patient underwent exploration of shunt tubings in neck and on mild traction whole tube came out easily and as CSF was clear was replaced back in abdomen. Baby was discharged home after few days. However child came back with fever and CSF revealed growth of salmonella hence required shunt removal, EVD placement and antibiotics and once csf clear and shunt was replaced back. Child is under follow up in OPD.

DISCUSSION

In 2008 S Karapolat described intrathoacic migration of a ventriculoperitoneal shunt in one of his patients.[1] In 1994 Taub E descibed his experience of thoracic complications of ventriculoperitoneal shunts.[2] In 2004 Akyuz M described intrathoracic migration of ventriculoperitoneal shunt resulting in hydrothorax.[3] In 2007 Rahimi Rad MH described his experience of supradiaphragmatic and transdiaphragmatic migration of ventriculoperitoneal shunt.[4] In 1995 DohJW described his experience of thoracic migration of a ventriculoperitoneal shunt causing hydrothorax.[5]

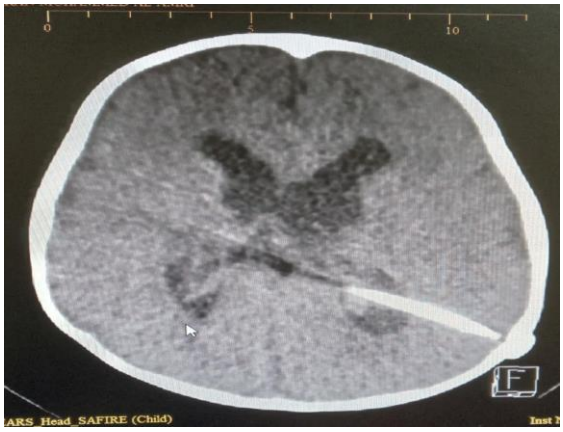

Fig. 1: Postoperative CT scan of the patient at birth after VP shunt insertion.

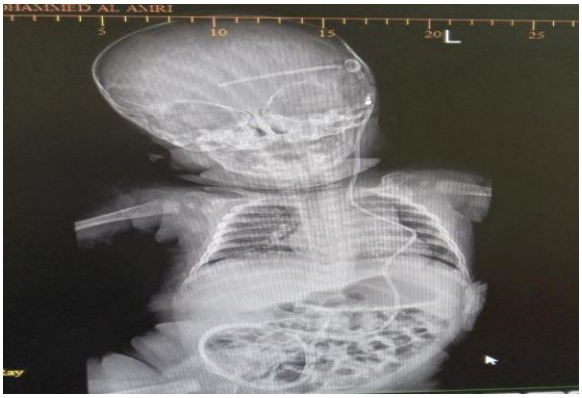

Fig. 2: Postop infantogram of baby showing well placed VP shunt after first surgery at birth.

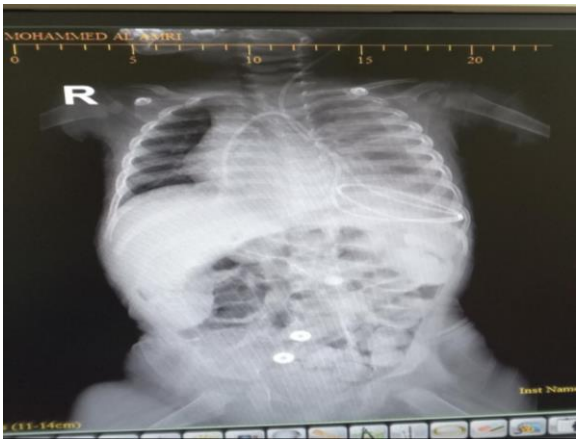

Fig. 3: X ray chest of patient showing thoracic migration of VP shunt.

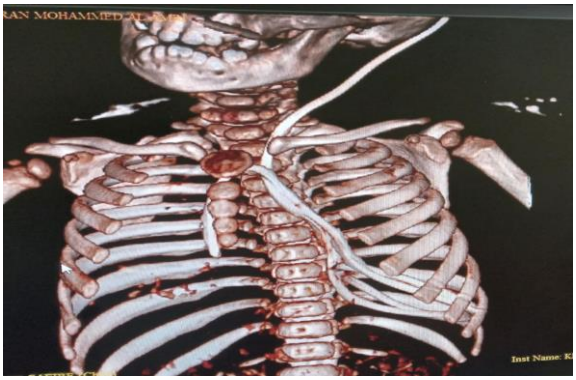

Fig. 4: CT chest of patient showing intrathoracic migration of VP shunt.

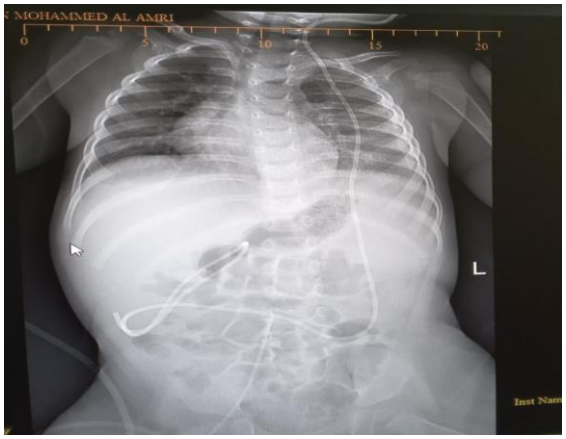

Fig. 5: Infantogram showing well placed shunt after recent surgery.

CONCLUSION

With VP shunting, it is important to keep in mind the possibility of peritoneal shunt-tip migration into the chest. To prevent this kind of complication, we stressed precise location of a subcutaneous tunneling device above the ribs during subcutaneous passage.

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