

ANAL EXTRUSION OF VENTRICULOPERITONEAL SHUNT-A RARE COMPLICATION

Mohammed Ali Bukhari¹, Chaudry Ali Manzoor¹, Waqar Aziz Rehman¹, Husnain Abid¹

ABSTRACT

Anal extrusion of ventriculoperitoneal (VP) shunt is a rare complication of shunt surgery for hydrocephalus. We report a case of a 03 year old baby, who presented with post VP shunting meningitis for which she was treated and discharged. After two weeks, she developed sub diaphragmatic abscess, which was drained in a paediatric surgical unit and the patient discharged. After two weeks, she again presented to us with extrusion of VP shunt from anus. VP shunt was replaced with a new one but she returned in a week with CSF leakage from the wound from where the abscess was drained. Surgery was again performed and VP Shunt was converted into VC shunt and she was discharged symptom free.

Key words: Hydrocephalus, Anal Extrusion, VP shunt complication.

INTRODUCTION

Hydrocephalus is the condition of excess CSF accumulation in the ventricular system that is caused by disturbance of formation, flow or absorption of cerebrospinal fluid (CSF). Shunting procedures of different types have been devised for CSF diversion in infants with hydrocephalus. Ventriculoatrial and ventriculojugular procedures for many years were regarded as the best shunting devices for children with hydrocephalus.¹ However, ventriculoperitoneal (VP) shunting is the most common procedure for hydrocephalus now a days. Common complications associated with shunting procedure are shunt infection, over drainage and shunt blockage.² Whereas, rare complications include abdominal pseudo cyst formation, colonic perforation, shunt catheter coiled within the urinary bladder,³ migration of VP catheter, intestinal obstruction, spontaneous extrusion of the shunt,⁵⁻⁷ cerebrospinal fluid ascites^{8,9,10,11} and transnasal prolapse of peritoneal catheter.^{3,11} In a 20 year follow up survey of children who had shunt surgery in the 1970's, more than half of them graduated from normal schools.¹⁰ Bowel perforation has a high risk of morbidity and mortality with different mechanisms described.^{2,4,12} A rare complication of extrusion of caudal part of VP shunt was noted in this case.¹³⁻¹⁶

1. Department of Neuro Surgery, Sheikh Zayed Medical College/Hospital, Rahim Yar Khan.

Correspondence: Dr. Mohammed Ali Bukhari
Assit. Professor, Neuro Surgery Deptt. Sheikh Zayed
Medical College/Hospital, Rahim Yar Khan.

Cell No: 0300-8679013

Email: Neuropak1@mobilink.blackberry.com

CASE REPORT

Three year old baby was brought to the neurosurgery department, Sheikh Zayed Medical College/Hospital, Rahim Yar Khan, with a history of irritability, frequent vomiting and enlarged head size. CT scan brain showed her to have hydrocephalus. She was operated and a ventriculo peritoneal shunt was inserted. After about one month, she presented to various physicians with fever, vomiting and fits. On CSF examination she was diagnosed as a case of acute pyogenic meningitis. She was treated for about two weeks and was discharged in normal health. About one month later, she presented to the paediatric surgeon with the complaint of fever, vomiting and abdominal pain. She was diagnosed as a case of right sub diaphragmatic abscess. Abscess was drained and surgeon reduced the size of peritoneal catheter by cutting it, thinking it was abnormally long. She was discharged, when her fever settled and her blood culture and CSF culture reports revealed no organisms.

After about two weeks, she reported to us in the neurosurgery out patient department, with fever and extrusion of peritoneal catheter through her anus. Surgery was again done and peritoneal catheter was replaced with a new one. She was discharged after ten days. But she came back in a week with leakage of CSF from abdominal wound from where sub diaphragmatic abscess had been drained. This fistula did not close in two weeks so, surgery was again done and VP shunt was converted into a ventriculocaval shunt. Fever settled and she was discharged after two weeks in normal state of health.

Figure 1.

Extruding Peritoneal Part of VP Shunt from Anus.



Fig. 2. Per operative finding, The distal Peritoneal catheter is perforating and penetrating the sigmoid colon.



DISCUSSION

Before shunt procedure was established, children with hydrocephalus had a poor prognosis.⁹ If proper care of VP shunt is taken, most of the children with hydrocephalus reach adult hood.⁶ However, VP shunt has been associated with many complications.⁷⁻¹²

The patient and doctor must have an ongoing commitment to manage the complications of shunt surgery. As many as 80% of shunts usually develop mechanical complications at some stage of life. One third of these complications occur within first year of shunt placement.⁸ Complications related to shunt infection occur in 5-10% of all shunt operations and are more frequent in younger patients especially those below 6 months of age.⁹ In our case, both mechanical and infective complications are seen in the same patient.^{13,14}

Extrusion of shunt through anus is a rare complication and only few cases are reported so far.¹⁴ Majority of these patients are infants and children as in our case. Anal extrusion is a rare complication and so far only this case has been seen during last 14 years of VP shunt operations done in our neuro surgery unit.

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