

SILENT COLONIC PERFORATION BY VENTRICULOPERITONAL SHUNT CATHETER PROLAPSING THROUGH ANUS, AN INFREQUENT COMPLICATION: A CASE REPORT

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Abstract: Silent colonic perforation by ventriculoperitoneal shunt catheter and later patient presenting with catheter prolapsing from anal opening is seen less frequently ¹. We had recently this child 1 years old a case of hydrocephalus with ventriculoperitoneal shunt presenting in above scenario. Patients are completely asymptomatic with no features of toxemia indicating a chronic process ². Treatment involves pediatric surgical help in removing the shunt catheter, waiting for a sterile cerebrospinal fluid sample via repeated cultures and replacement of shunt catheter in a different quadrant in abdominal cavity.

Keywords: Colonic perforation by shunt catheter.

1. INTRODUCTION

Various complications of ventriculoperitoneal shunt are reported in the literature. Starting from shunt malfunction, shunt infection, shunt disconnection and rarely we see silent perforation of colon by abdominal end of shunt tube and patient presenting with shunt tube seen prolapsing from anal opening ³. Treatment is again a challenge. With colonic perforation shunt infection is likely hence discarding the present shunt system and replacing with a external ventricular drain till csf is satisfactory is the standard policy.

2. MATERIAL AND METHODS

We herewith present a child 1 yr old who was born with lumbosacral myelomeningocele with hydrocephalus on 30/10/2015 Fig 1, 2 and 3. Child underwent repair of myelomeningocele with insertion of a programmable VP shunt at birth Fig 4. Patient had post operative non healing of the lumbosacral wound not responding to usual antimicrobial therapy and dressings hence required plastic surgery team putting a split thickness skin graft on 29/11/2015 and gradually the wound healed. Patient was parapertic and incontinent to bowel and bladder as part of myelomeningocele. Patient was being followed up in spina bifida clinic by paediatric surgery, orthopedic and rehab teams .On 23/6/2016 however patient presented with shunt obstruction which was confirmed with CT brain and shunt system was revised.

On 8/1/2017 however mother noticed white shunt tube prolapsing through anus while child was defecating Fig 5. Child was afebrile with active alert and no signs of toxemia was seen. Child underwent CT brain which revealed well functioning shunt and CT abdomen which revealed shunt perforation at transverse colonic region Fig 6. This shunt was a Codman (hakim programmable valve) system.

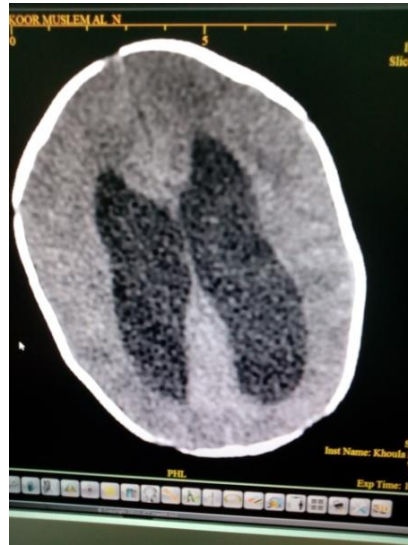


Fig 1: Pre op CT brain of patient at birth



Fig 2: Pre op CT spine showing the spinal defect



Fig 3: Showing the myelomeningocele baby was bon with .



Fig 4: CT brain of the patient after the shunt at birth

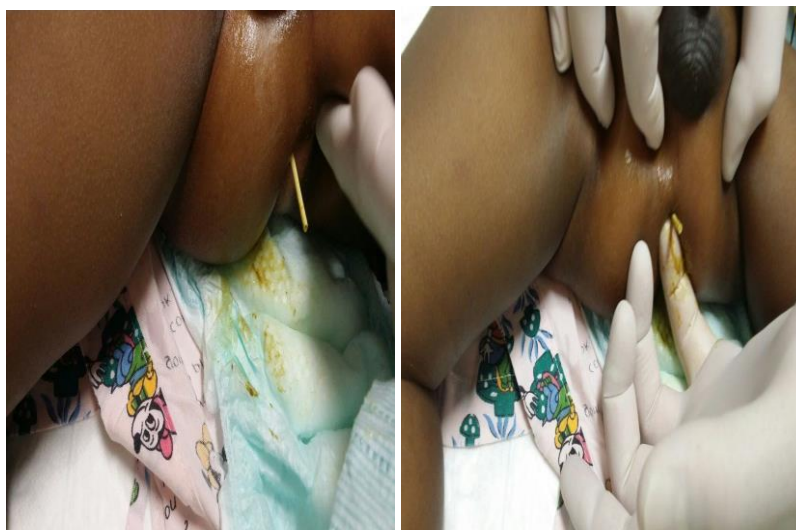


Fig 5: Prolapse of shunt distal end via the anus

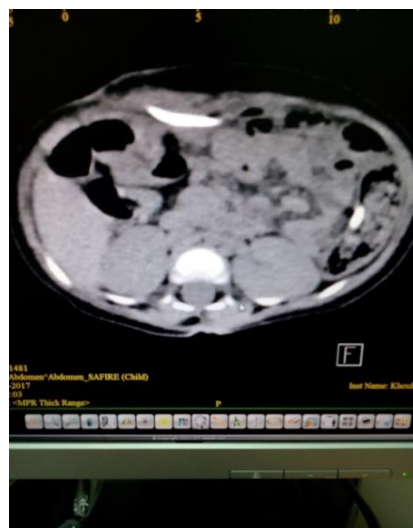




Fig 6: CT abdomen showing the colonic perforation via shunt catheter

3. RESULTS

Child was referred to paediatric surgery team who joined neurosurgery team and exposed hanging part of the shunt tube was excised and remaining shunt was removed from old abdominal incision. From cranial end shunt ventricular catheter was removed and external ventricular drain was kept. Patient remained on EVD till three consecutive CSF cultures were sterile and microscopy acceptable and then EVD was converted to new programmable shunt in different abdominal quadrant. Child is on regular follow up and doing well in OPD.

4. DISCUSSION

In 2011 Hai A, Rab AZ et al described in their series time period of bowel perforation after shunt surgery minimum in infants and increases with age and sigmoid and transverse colon followed by stomach are the most frequent sites of gastrointestinal perforations by VP shunt.¹ In 2007 Ghritlaharey RK, Budhwani KS et al described a series of ten cases with silent bowel perforation.² In 2008 Matsuoka H, Takegami T, Maruyama D et al described a case of 4 yr old child a case of myelomeningocele with hydrocephalus who had undergone repair of myelomeningocele and VP shunt later had bowel perforation with trans anal migration of shunt catheter and required duplication of ileum repair, closure of colonic fistula and shunt being changed to ventriculoatrial one.³ In 2011 Hayama T, Ishihara S et al described a case where peritoneal catheter got severed spontaneously and perforated the sigmoid bowel and presented with anal protrusion.⁴ In 1997 Adeloeye Adescribed weak bowel musculature in myelomeningocele and the use of stiff peritoneal catheters a cause of silent bowel perforation and transanal protrusion and treated without any major abdominal surgery like our patient.⁵ In 2000 Sathyanarayana S, Wylene EL et al described incidence of bowel perforation by shunt catheter to be 0.1% in their study of 45 cases.⁶ In 2016 Sarkari A, Borkar SA, Mahapatra AK described in their series likely cause of bowel erosion as catheter tip adheres to the wall of viscera and a constant pressure of the abutting tip along with local inflammatory reaction leads to erosion of the visceral wall and entrance of tip in the lumen.⁷

Our case report lays further emphases on this uncommon complication and poor bowel musculature can be a likely cause as reported in literature.

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