

# A Rare Complication of a Ventriculoperitoneal Shunt Resolved by Colonoscopy

# UCTN

In addition to the two most frequent complications of obstruction and infection, ventriculoperitoneal (VP) shunts have been associated with a pseudocyst, mesenteric pseudotumor, metastasis of cerebral tumors via the shunt, and protrusion of the distal catheter through the scrotum or vagina [1,2]. Bowel perforation, especially of the colon, has been previously described in about 30 cases, usually in children [2].

A 33-year-old man underwent the insertion of a VP shunt for traumatic hydrocephalus. After 6 months, the protrusion of a strange structure through the anus during defecation was noted. Colonoscopic examination revealed that a part of the distal VP shunt had perforated the colon about 25 cm from the anus (Figure 1). The distal part was grasped and pulled straight with a “crocodile” clamp while the tube was cut and ligated upon its proximal abdominal entry site through a small incision at the right hypochondrium, after which the residual tube was removed through the anus. The patient recovered without complications, and at follow-up colonoscopic examination 10 days later the rectal wound had healed completely.

Perforation of an intra-abdominal hollow organ is a rare complication of a VP shunt

and is associated with a 15% mortality [1, 2]. A long-lasting adhesion of the catheter to the bowel may have led to its erosion, augmented by the stiff and sharp tip of the distal catheter [1,3].

In the management of rectal perforation caused by a VP shunt, three options have been suggested: total removal of the shunt, conservative management with intravenous antibiotics, and external ventriculostomy until the cerebrospinal fluid (CSF) becomes sterile [1,3,4].

In the case discussed here, management consisted of colonoscopy-assisted removal of the peritoneal part of the catheter combined with antibiotic treatment, with good results.

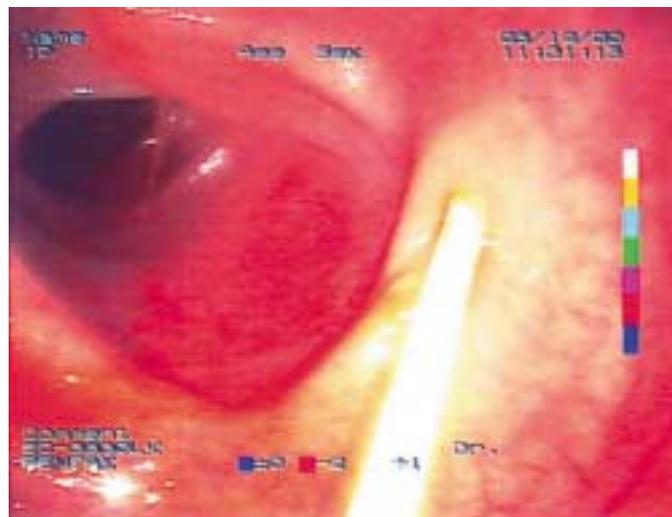
**E. Pikoulis<sup>1</sup>, N. Psallidas<sup>2</sup>,  
P. Daskalakis<sup>1</sup>, K. Kouzelis<sup>3</sup>,  
A. Leppäniemi<sup>4</sup>, P. Tsatsoulis<sup>1</sup>**

<sup>1</sup>2nd Department of Surgery,  
General Hospital “Asclepeion” Voulas,  
Athens, Greece

<sup>2</sup>Endoscopic Unit,  
General Hospital “Asclepeion” Voulas,  
Athens, Greece

<sup>3</sup>Department of Neurosurgery,  
General Hospital “Asclepeion” Voulas,  
Athens, Greece

<sup>4</sup>Department of Surgery,  
Helsinki University, Finland



**Figure 1** Part of the distal tube of the ventriculoperitoneal (VP) shunt had perforated the colon.

## References

- <sup>1</sup> Digray NC, Thappa DR, Arora M et al. Silent bowel perforation and transanal prolapse of a ventriculoperitoneal shunt. *Pediatr Surg Int* 2000; 16: 94–95
- <sup>2</sup> Ashpole R, Boulton R, Holmes AE. A case of asymptomatic passage per-rectum of a fractured redundant peritoneal catheter from a ventriculo-peritoneal shunt. *Eur J Pediatr Surg* 1995; 5: 280–281
- <sup>3</sup> Jamjoom AB, Rawlinson JN, Kirkpatrick JN. Passage of tube per rectum: an unusual complication of a ventriculoperitoneal shunt. *Br J Clin Pract* 1990; 44: 525–526
- <sup>4</sup> Schulhof LA, Worth RM, Kalsbeck JE. Bowel perforation due to peritoneal shunt. A report of seven cases and a review of the literature. *Surg Neurol* 1975; 3: 265–269

## Corresponding Author

**E. Pikoulis, M.D.**

2nd Department of Surgery  
General Hospital “Asclepeion” Voulas  
Aggelidou 5 Str.  
Paleo Faliro, 17561  
Athens  
Greece  
Fax: +30-10-8959254  
E-mail: Pikoulis@hellasnet.gr