

# Chronic Abdominal Pain in a Patient with Ventriculoperitoneal Shunt

## Dor Abdominal Crónica em Doente com Derivação Ventrículo-Peritoneal

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We describe a case of a 13-years-old teenage girl with a past medical history of complete surgical removal of choroid plexus papilloma (WHO grade I) at the age of 14 months. At four years old she had inserted a ventriculoperitoneal shunt which had to be replaced for a new one five years later, due to infection. Sleep continuous spike-wave epilepsy, mild cognitive impairment and functional constipation were also reported in her history.

At 10 years old, she started to complain of nonspecific daily abdominal pain associated with postprandial fullness and occasional night awakenings. Other gastrointestinal symptoms were denied. On physical examination she had a soft, depressible, tympanized abdomen, with mild pain on deep palpation of the hypogastrium, right iliac fossa, umbilical region, and epigastrium, with no signs of peritoneal irritation. Blood analysis, search for viruses, bacteria and parasites in the stool and breath test for *Helicobacter pylori* were all negative.

Taking into account that proton pump inhibitors and butylscopolamine were ineffective an abdominal radiography was performed in which an intra-abdominal fragment of the ventriculoperitoneal shunt was identified in the small pelvis (Fig. 1), which was corroborated by a computed tomography (Fig. 2). A colonoscopy revealed that the ventriculoperitoneal shunt was

located behind the sigmoid colon wall (Fig. 3) so an exploratory laparoscopy was performed and the ventriculoperitoneal shunt fragment was removed. The procedure was uneventful and one month later the patient was asymptomatic.

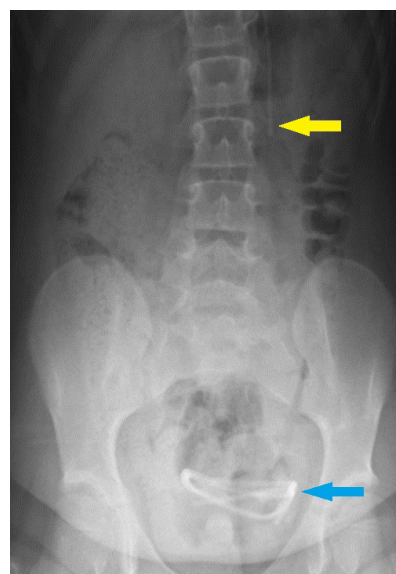


Figure 1. Abdominal radiography ventriculoperitoneal shunt fracture at L3 vertebrae level (yellow arrow) and presence of shunt fragment in the small pelvis (blue arrow).

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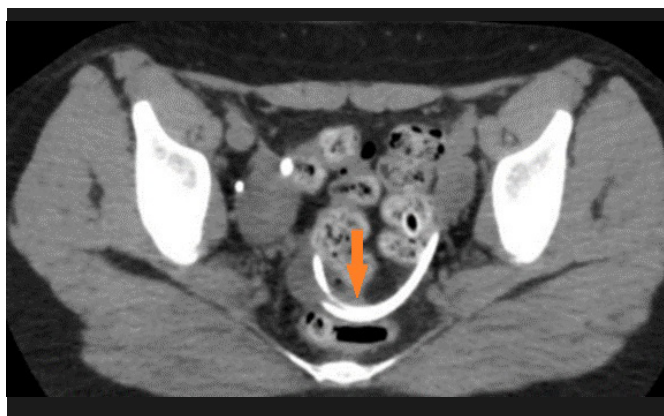


Figure 2. Computed tomography ventriculoperitoneal shunt fragment located in the small pelvis (arrow).

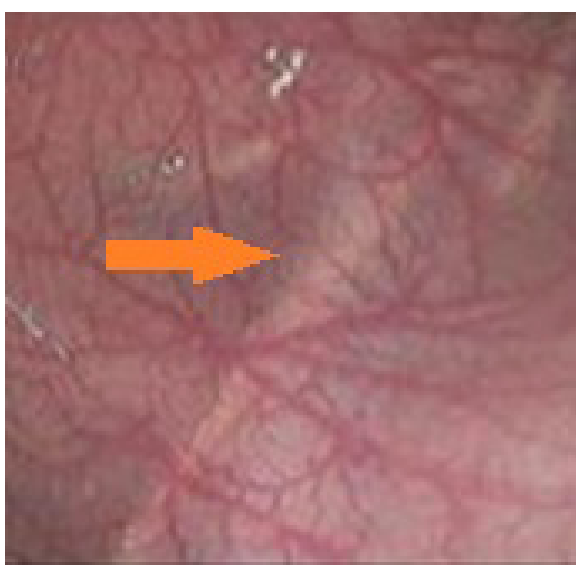


Figure 3. Image taken during colonoscopy: ventriculoperitoneal shunt behind the sigmoid colon wall (arrow).

Ventriculoperitoneal shunts have several complications described in the literature and the disconnection / fracture is one of the least frequent.<sup>1</sup> The pediatric population is more likely to develop this type of complication mainly due to rapid height growth. The consequent stretching of the catheter is often associated with the deterioration of the biomaterials.<sup>2,3</sup> The implementation of new surgical techniques together with the progress of biomedical engineering in the creation of more resistant ventriculoperitoneal shunts will reduce the frequency of fractures.<sup>4</sup> It should be noted that, as in this case, the diagnosis can be made using radiography, but computed tomography is considered the gold standard.<sup>1</sup> This case emphasizes the study of less common causes of abdominal pain and highlights an unusual complication related to surgical catheter insertion.

## Ethical Disclosures

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## Contributorship Statement

**BP:** Drafting of article

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**ES and FS:** Critical Review of Article

All authors approved the final version

## Declaração de Contribuição

**BP:** Escrita do artigo

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Todos os autores aprovaram a versão final.

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