Mini Review

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Journal of Universal Surgery
2254-6758

2022
Vol. 10 No. 9: 67

Asymptomatic Migration of Universal Surgery

Dr. Shrivimika Rao *

Department of Surgery and University of Scientific AKUD, India

Corresponding author:
Dr. Shrivimika Rao

shrivemik@raogamil.com

Department of Surgery and University of Scientific AKUD, India

Citation: Rao S (2022) Asymptomatic Migration of Universal Surgery. J Uni Sur, Vol. 10 No. 9: 67.

Abstract

Intrathoracic migration of ventriculoperitoneal shunt is a rare complication and usually complicated with pneumonia or cerebrospinal fluid hydrothorax, which leads to diagnosis and early interventions. Very rarely patient remains asymptomatic [1]. Here is a case report of a 6-year-old boy with a rare asymptomatic intrathoracic migration of ventriculoperitoneal shunt. The cerebrospinal fluid shunt is a device implanted surgically in a CSF containing space to divert the excess fluid in a controlled manner to any distal compartment that can absorb CSF such as the pleura, atrium and peritoneum, being the later most favored. The shunting system is composed of a shunt valve, distal catheter, proximal catheter (ventricular catheter) and some accessories such as connectors and reservoirs (shunt chamber). A Shunt is known to be used as a treatment for many neurosurgical cases including hydrocephalus; it is a very effective way to reduce cerebrospinal fluid accumulation within brain ventricles which help save the patient from serious brain damage that can lead to mental retardation in pediatrics age group. Complications of VP shunts are common and reach up to 47%. Shunts can carry the risk for infections such as meningitis, ventriculitis and sepsis, leakage of CSF fluid at puncture site, rapid shunting of the fluid can lead to ventricular collapse, bleeding and abdominal complications such as volvulus, pseudo cyst and extrusion of the tube through viscus, heart, vagina and scrotum [2]. In this case report we are presenting a rare complication of the cerebral shunt; it is a case of a 4 years old female patient in which the distal end of the shunt has migrated and extruded through the anus. Case Presentation a 4 years old female, a known case of encephalocele for which a Shunt was placed at the age of 1 year, was brought to the emergency department with a small tube coming out of her anus that was found accidentally, the patient was asymptomatic. The diagnosis was perforated anus due to VP Shunt.

Keywords: Asymptomatic; Intrathoracic migration; Supradiaphragmatic; Ventriculoperitoneal shunt

Received: 02-Sep-2022, Manuscript No. IPJUS-22-13088; **Editor assigned:** 05-Sep-2022, Pre-qc No. IPJUS-22-13088; **Reviewed:** 23-Sep-2022, QC No. IPJUS-22-13088; **Revised:** 26-Sep-2022, Manuscript No. IPJUS-22-13088 (R); **Published:** 30-Sep-2022; DOI: 10.36648/2254-6758.22.10.67

Introduction

Ventriculoperitoneal (VP) shunt is a common procedure performed for hydrocephalus. Complications such as shunt migration may be secondary to infection, local inflammation, or incorrect tunnelling [3]. Till date, 27 cases have been reported for intrathoracic migration but all of them were associated with complications such as pneumonia, hydrothorax, and respiratory distress. However, asymptomatic presentations have been rare and also case reports of intrathoracic migration in children are few. Our purpose of presenting this case report was to highlight an early diagnosis of rare migration by simple investigation and prevent major complication and mortality. (A) Coronary guidewire (blue arrow) is outside the true arterial lumen (green arrow) and although migration of an intracoronary stent into pericardial space is reported in association with stent fracture or chest trauma, the phenomenon was spontaneous in our patient [4]. Identification of the exact cause of stent migration is difficult without intracoronary imaging studies. However, repeated friction of the relatively rigid stent-graft against the physiological distal curve of the right coronary artery from constant cardiac motion may be one possible mechanism. Perforation of the

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coronary artery into the pericardial cavity is usually catastrophic but in our case, the patient was asymptomatic because of prior occlusion of the proximal arterial segment. The Intrauterine Device (IUD) is one of the most used and effective contraceptive means worldwide due to its anti-conceptual and anti-nesting action. Although IUD use offers the benefits of being affordable, long lasting, highly effective, and reversible. However, like any foreign body, it can expose to certain complications, sometimes, with very serious consequences [5]. Migration is the rarest but most feared complication. The frequency of uterine perforation ranges from 0.05 to 13 per 1000 insertions. It can be announced by pelvic pain, and in the majority of cases reported; this accident does not lead to major complications and remains clinically silent. The clinical presentation varies depending on the final ectopic site of the device. We report the case of an IUD migration into the peritoneal cavity 10 years after its insertion in a 41-year-old patient whose only complaint was epigastric pain. The clinical examination did not reveal lower abdominal tenderness. Apart from a lipase rate, which was around ten times the normal level, other ordinary blood tests did not show any abnormalities. The diagnosis was made fortuitously based on the subsequent CT scan findings that were part of the routine staging of the acute lithiasic pancreatitis, the underlying cause of the described pain [6]. Acute pancreatitis was staged B and the patient had a successful surgical retrieval of the IUD with a good outcome.

Discussion

Intrathoracic migration of VP shunt is very rare and may present with serious complications secondary to pneumonia or hydrothorax. In children, cases have been reported with severe respiratory distress and fever following intrathoracic migration. Hence, such a condition must not be neglected. In our case, the patient had only mild and intermittent chest pain with no other symptoms for 1 month, which could be probably because of the catheter being in the subcutaneous level [7, 8]. Only a high degree of suspicion with a plain chest X-ray helped us to evaluate the case. Taub and Lavyne have classified three types of thoracic complication: (a) due to intrathoracic trauma during subcutaneous tunneling in supradiaphragmatic or transdiaphragmatic migration, (b) migration through asymptomatic congenital hiatus in the diaphragm (foramen of Bochdalek and Morgagni), and (c) erosion of the diaphragm as a result of local inflammation stated in his rare case report of migration of VP shunt that in imaging distal portion of the shunt is seen coiled within the chest without any part of the shunt lying below the diaphragm in supradiaphragmatic migration and tip of the shunt could not have migrated through an opening in the diaphragm in such case. Reported incorrect tunneling as the cause of supradiaphragmatic migration, but presentation was immediately after surgery. In our case, the child remained asymptomatic for 5 years; hence it was unlikely to be a procedure failure [9]. However, downward migration of VP shunt from ventricle may be age related as the patient was shunted at 1 month of age or because of local inflammation around the shunt and the underlying chest wall, which might have caused erosions of the parietal pleura and also disrupted the anchoring effect of the catheter leading to migration into the thoracic cavity [10].

Conclusion

Intrathoracic migration of VP shunt is a rare complication and should not be overlooked in a follow-up patient of VP shunt with any respiratory symptoms. Simple investigation helps us prevent potentially serious complications and mortality. Hence, a high degree of suspicion should always be present for patients on VP shunt. Intraperitoneal migration of the IUD is a rare accidental event that can remain asymptomatic and therefore remains undiagnosed for a long time, but it is not risk free. This justifies a systematic surgical treatment ideally by laparoscopy and must above all encourage the adoption of a regular clinical and paraclinical monitoring of each patient carrying this contraceptive method in order to watch for this complication in time. One hundred seventy eight (178) reports from the period (1978-2011) were identified via the National Library of Medicine's Medline. Review of literature and Medline search revealed 45 reported cases of Tran's mural migration of surgical sponges following abdominal surgery during period of 2000-2010. Incidence of Retained surgical sponge or gossypiboma occurs at a one per 100-3000 operations however, surgeons may not report these events for fear of litigation and adverse publicity therefore true incidence will never be known. gossypiboma (mean patient age 49 years, range 6-92 years) were most commonly found in the abdomen (56%), pelvis (18%), and thorax (11%). Average discovery time equaled 6.9 years (SD 10.2 years) with a median (quartiles) of 2.2 years (0.3-8.4 years). The most common detection methods were computed tomography (61%), radiography (35%), and ultrasound (34%). Pain/irritation (42%), palpable mass (27%), and fever (12%) were the leading signs and symptoms, but 6% of cases were asymptomatic. Complications included adhesion (31%), abscess (24%), and fistula (20%). Risk factors were case specific (e.g., emergency) or related to the surgical environment (e.g., poor communication) but most retained sponges, in fact, occur after "normal" swab counts, perhaps falling outside the human safeguards designed to prevent these types of errors.[3] The present case report and review of literature suggests that possibility of a retained foreign body should be in the differential diagnosis of any postoperative patient who presents with pain, infection, or palpable mass. Had this possibility was kept in mind the cholecystectomy (second surgery) might have been avoided in instant case? In the study conducted by Bani-Hani et al., ten out of eleven (91%) patients required reoperation to remove the retained sponge and to manage the resulted complications, including bowel obstruction and fistulae. If diagnosis is made early, laparoscopic retrieval may be feasible and patient would have been saved of agony of undergoing two major surgical operations and its risk of associated morbidity and mortality.

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