

Case Report

Laparoscopic Retrieval of Migrated Ventriculoperitoneal Shunt for Hydrocephalus into Peritoneal Cavity: A Case Report and Review of Literature

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Abstract

Ventriculoperitoneal (VP) shunt is very effective and commonly used procedure for treating hydrocephalus. The complications of VP shunt are many, and one of these is intraperitoneal migration of catheter. In our case it was a 55 years male patient, who sustained road side accident two years ago. He was operated for temporal contusion at a different hospital. Evacuation of the hematoma was performed but he remained in disoriented state and required assistance in his routine activities. Almost three months after the injury, VP shunt was performed for hydrocephalus on follow up CT Scans. A revision of the shunt was performed at 2 months and the chamber of previous shunt was removed. Patient improved and subsequent CT scans over next one and a half years showed decompression of the ventricles. Two weeks ago, patient presented at our hospital in a drowsy condition of 2 day duration. CT scan of the brain showed shunt tube in situ but enlarged ventricles. Clinically shunt tube was not palpable along the tract. X-ray of the abdomen performed after revision of VP shunt showed shunt lying in the pelvis. The shunt was removed by laparoscopic surgery from pelvic region, there was no injury to any intraabdominal organ on laparoscopy. So, dangerous complications of migration of VP shunt were averted by early intervention with least invasive methods.

Keywords: Ventriculoperitoneal shunt; Laparoscopic surgery; Hydrocephalus.

Introduction

Ventriculoperitoneal shunt (VP) is one of the most common neurosurgical procedures done.[1] Many complications secondary to VP shunt placement have been reported[2]–the infections and obstruction being most common, but other complications like extrusion of shunt from abdominal cavity to scrotum[3], Chest[4], Heart[5], and sometimes perforating stomach and passing through esophagus and its exit from oral cavity has been reports in literature.[1] Abdominal complications are seen in about 25% cases and are accompanied mostly by bowel perforations.

We report a case of post traumatic hydrocephalus treated by VP shunt, but he had persistent symptoms. On X-ray VP shunt was found to be lost in peritoneal cavity, we managed it by redo VP shunt and Laparoscopic retrieval of migrated shunt with least invasive technique and avoided complications.

Case Report

A 55 years old male patient sustained road side accident two years ago. He was in unconscious condition and was found to have a temporal contusion. He was operated and evacuation of the hematoma was performed at a different hospital. He had a prolonged stay in the ICU. He was discharged in disoriented state and required assistance in his routine activities. Almost three months after the injury, he became drowsy. CT scan showed

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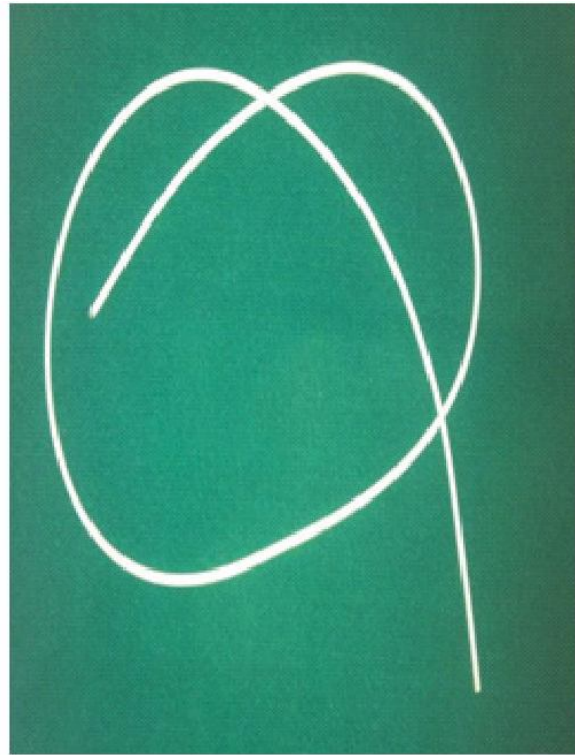
hydrocephalus. A ventriculo- peritoneal (VP) shunt was performed. As the patient did not improve, revision of the shunt was done and the chamber of shunt was removed. Patient improved and subsequent CT scans in a span of one and a half years showed decompression of the ventricles.

Two weeks ago, patient presented at our hospital in a drowsy condition of 2 day duration. CT scan of the brain showed shunt tube in situ but enlarged ventricles. Clinically shunt tube was not palpable along the tract. His chest x-ray did not show the shunt tubing. Shunt revision was done. During the shunt surgery, shunt tubing could not be traced from the head down to the peritoneum. In Post op period X-ray of the abdomen showed shunt in the pelvis (Fig I). Patient's relatives were counseled and they opted for its removal laparoscopically. Patient was operated and shunt was removed laparoscopically (Fig II). Procedure was uneventful. Patient improved after the surgery and was discharged next day.

Figure I



Figure II



Discussion

The complications of VP shunt surgery are common and migration of the peritoneal end into virtually every abdominal organ has been reported. There are reports of migration of the peritoneal catheter of VP with intestinal perforation, vaginal, uterine, urinary bladder and gallbladder perforation have been reported.[1] Pneumothorax, intestinal obstruction, or volvulus is also seen. Migration into abdominal incision[2] and into the scrotum[3], chest, lung[4], and heart[5] been reported.

In our case, suspicion came out early due to patient presenting with symptoms of hydrocephalous. The search for lost or blocked shunt tube was made before any complications. The role of laparoscopic surgery or minimally invasive surgery is proved beyond doubts in such cases to decrease pain and incision, thus quicker recovery from surgery.

Conclusions

Life threatening complications can be avoided by high index of suspicion in cases with symptoms of hydrocephalous and shunt in situ.

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