DISTAL MIGRATION OF VENTRICULOPERITONEAL SHUNTING CATHETER UNDER SILICON BREAST IMPLANT

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Ventriculoperitoneal (VP) shunt is a common form of treatment for hydrocephalus. Although simple technically, a high level of surgical complications have been described[1,2]. We reported a case of ventriculoperitoneal shunt failure due to migration of the distal catheter under a silicone breast implant.

CASE

A 34-year-old woman, previously submitted to a silicone breast implant 10 years before, presented in the emergence department with a 5-days history of breast swelling and pain. She also complained of a nipple discharge. Nine months before, she had also been submitted to a right frontal ventriculoperitoneal shunt for hydrocephalus secondary to a cerebellar desmoplastic medulloblastoma operated at the same occasion, with disease control and no residual symptoms. Chest x-rays (Fig 1) showed a coiled distal catheter on the right breast region and breast ultrasound showed liquid collection on the same region.

An elective replacement of the distal catheter into the peritoneal cavity was undergone with drainage of the cerebrospinal fluid (CSF) pseudocyst (Fig 2), preserving the implant. We used the previous inframmary and abdominal incisions. The patient discharged home with no symptoms the following day. At 6 months after surgery, she was asymptomatic yet.

DISCUSSION

Surgical complications of VP are very common, especially dysfunction and infections[3]. Many authors reported distal catheter migration as a cause of shunt failure[1,2], that can be attributed, among many others causes, to inadequate surgical technique. Distal migrations are described to the scrotum[4], heart[5], gastrointestinal tract[6], thoracic cavity[7], bladder[8], vagina[9], gallbladder[10], among others.

However, distal catheter migration under a mammary implant is rare. We found just two similar reports; Spector et al., reported a patient with pain and swelling in her right breast 6 weeks after a ventriculoperitoneal shunt to treat hydrocephalus due to a acoustic schwannoma neuroma[11]. At the time of shunt placement, the neurosurgeon was not aware that the patient has been undergone a bilateral breast augmentation some years before. A chest x-ray showed the coiled distal shunt catheter in the right breast, exactly like our patient. The patient was treated with a small incision at the level of clavicle, breast decompression through the stab incision and replacement of the distal catheter intraperitoneally via the previous incision. The patient had full recovery and was discharged home in the day after surgery. Iyer et al., reported a case of a woman with a 4 month history of ventriculoperitoneal shunt for hydrocephalus who was submitted to an elective breast augmentation after neurosurgery evaluation[12]. Ten weeks later, the patient came to the emergency with light-headness and right breast pain and swelling

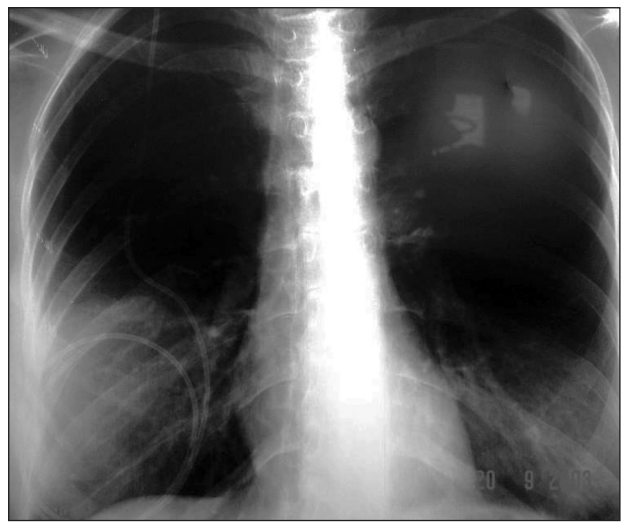

Fig 1. Chest X-ray showing the distal catheter coiled in the region of the right breast of the patient.

MIGRAÇÃO DISTAL DE CATÉTER DE DERIVAÇÃO VENTRÍCULO-PERITONEAL PARA IMPLANTE MAMÁRIO DE SILICONE

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Fig 2. Swelling of the right breast of the patient due to CSF pseudocyst.

of 5 days' duration. Chest scan showed a coiled catheter around the implant and peri-implant fluid collection. The patient was submitted to distal catheter replacement into the peritoneal cavity, avoiding contact of the implant with the catheter, discharged home within 24 hours completely symptom free.

Breast complication of shunt none related to breast implants has also been reported. Moro'n et al., reported a complication of ventriculopleural shunting in which the pleural end of the catheter retracted out of the pleural cavity with drainage of CSF into the subcutaneous and breast tissue, developing breast enlargement and drainage via the nipple 12 days after her last revision[13]. The patient was a 24-year-old girl that had undergone to 22 shunt revisions due to dysfunction. She was submitted to a revision surgery where the catheter was replaced into the pleural cavity.

Lee et al. and Nakano et al. reported similar cases of retrograde cerebrospinal fluid and leaked from the nipple orifice due to intra-abdominal pseudocyst located at the peritoneal catheter tip and lactiferous duct injured followed ventriculo-peritoneal shunt implantation[14,15]. The distal catheter replacement into the peritoneal cavity was sufficient to treat both patients.

As noted for other authors, who desire augmentation mammaplasty, it is important to note the possibility of shunt migration around the breast implant. To prevent this complication, it is recommended to take care when placing the shunt near the breast area, placing the catheter in a more medial thoracic position. The patient and the neurosurgeon must be aware of the risks, even after the tissue has healed completely.

Discussing pasting medical and surgical history and a good surgical technique are important factors to prevent this complication. Although rare, breast swelling, cystic mass, or clear nipple discharge should be due to shunt complications, even in patients without a breast implant.

Surgical management of this complication consisted in replacement shunt, drainage of CSF and preservation of the implant.

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