Upward Migration And Subcutaneous Coiling Of The Ventriculo-Peritoneal Shunt Catheter: A Case Report

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Citation

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Abstract

We report a case of migration of a ventriculo-peritoneal shunt catheter at an unusual site. The patient presented with a right upper chest swelling. Close examination revealed the true identity of the lump. The necessary action was taken and is described below.

INTRODUCTION

Although hydrocephalus is more complex than a simple disorder of CSF circulation, shunting is still considered as treatment of choice. Among various types of shunt procedures, the use of ventriculoperitoneal shunt is widespread. Commonly seen are catheter obstruction, intraperitoneal infections, cerebrospinal fluid ascites, skin erosion and catheter migration. There are several cases reported where migration of catheter tip has lead to perforation into the heart, intestine, liver, thorax, bladder, scrotum, vagina, anus, urethra, umbilicus, inferior vena-cava and pulmonary artery. Although two cases been reported previously with upward migration of the shunt catheter ([3, 4]) We report yet another case of upward migration of shunt catheter where the displacement was seen in the subcutaneous tissue at the surgical site on the chest wall It has not been reported previously.(Fig 1.)

Figure 1

CASE DESCRIPTION

A 50-year-old man presented with a complaint of right upper chest swelling since one week. On examination it was an oval shaped, 1inch x 1.5 inch in size, semitransparent with a apparent cord like structure visible at its base situated 1 inch lateral to right upper sternal border. He had been operated for pituitary macro adenoma through sub-labial trans sphenoidal approach one month back. A week later he developed hydrocephalus for which he underwent ventriculo-peritoneal shunt insertion. His medical history was unremarkable. The exploration of the swelling was planned under general anesthesia. On exploration cord-like structure was found to be Ventriculo-peritoneal shunt catheter coiled at the base of swelling with its both proximal and distal ends blocked. The catheter was removed and a new shunt was inserted on the opposite side. The intra and post-operative course was uneventful and patient discharged the following day.

DISCUSSION

Different factors have been proposed for the development of upward migration Benson P Yang et al presumed that erosion of tissue by catheter tip and subsequent anterograde movement of the catheter into various viscera. ([2]) The gradient between intracranial and intra abdominal pressure as the cause of catheter displacement, the course of subcutaneous tract of the tube not being straight, incorrect fixation of the ends of the system were the other precipitating factors proposed by Abou el nasr et al. ([1]) Kim K S found that coiling of catheter takes place in the loose part of the skin. ([3]) In our case we presume that CSF flow continued despite the obstruction of proximal and distal ends

of the catheter thereby leading to the formation of subcutaneous tract, which helped in the migration of the catheter and subsequent coiling.

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References

1. Abou el Nasr HT. Modified method for prophylaxis against unishunt system complications with presentation of total intraventricular migration of unishunt system ventriculoperitoneal shunt. Child Nerv. Syst.1988; 4:116-18
2. Benson P Yang, Carina W. Yang, Stefan A. Mindea.Reduplication of Ventriculoperitoneal Shunt Catheter Tip back through Shunt tract. Pediatr Neurosurg 2005; 41:168-169
3. Kim K. J, Wang K. C, Cho B. K. Proximal Migration and subcutaneous coiling of a peritoneal catheter: report of two cases. Child Nerv syst 1995; 11:428-31.
4. Y. Ersahin. Upward migration of peritoneal catheter. Br J Neurosurg 2000; 14(3): 267-268

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