Intraoperative placement of a self-retaining Foley catheter for continuous drainage of malignant ascites

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Summary

Malignant ascites in advanced cancer is usually treated by repeated paracentesis, causing both discomfort and inconvenience to patients in the terminal stages of disease.

We present a case of advanced ovarian carcinoma in which intraoperative placement of a Foley's self-retaining catheter into the peritoneal cavity was used to facilitate long-term continuous drainage of malignant ascites. This is a simple, convenient and cost-effective method which decreases the need for repeated hospital admissions. The aim complication might be peritonitis, but with proper care of the device and the use of antibiotics, this was not seen in our patient.

Key words: Malignant ascites; Foley catheter drainage.

Case report

A 69-year-old woman presented with a history of weight loss and increasing abdominal distension. Examination revealed an emaciated female with tense ascites confirmed by ultrasound. Serum CA-125 was markedly elevated and a presumptive diagnosis of ovarian carcinoma was made.

At laparotomy, six litres of blood-stained ascitic fluid were drained and a 7 cm left ovarian tumor was found with widespread abdominal metastases involving the greater omentum, transverse colon, pelvic and abdominal peritoneum. Tumor resection was impossibile as all surrounding tissue was friable and unable to support sutures. A tissue biopsy was obtained.

An intraperitoneal drain was created using a 24F rubber Foley's self-retaining catheter, which exited the abdomen at the lower end of the subumbilical midline incision. The abdomen was closed using strong interrupted "en masse" sutures.

Histological analysis confirmed ovarian cystadenocarcinoma.

The catheter allowed slow continuous drainage of ascitic fluid without the need for repeated paracentesis and was changed as necessary whenever blockage occurred (average twice a month) as an outpatient procedure. Serial bi-weekly measurements of serum electrolytes were performed which were all normal.

The patient was advised on aseptic care of the exite site and placed on continuous antibiotics (Cefuroxime 1G daily). Analgesics were recommended if required, but were not necessary.

Discussion

Episodic percutaneous drainage is the most commonly used modality of treatment for malignant ascites [1]. Unfortunately, this is associated with significant discomfort to the patient and repeated hospital admissions, each carrying the risks of electrolyte and fluid imbalance due to sudden depletion of body fluids, intraperitoneal visceral injury and peritonitis. There is also a significant cost factor incurred.

Methods for continuous drainage of refractory ascities have been described using a permanent Tenckoff catheter [2, 3] and also an implantable silastic drain [4]. Mercadante *et al.* (1998) inserted a catheter under computerized tomography (CT) guidance [5] for temporary drainage of malignant ascites over three days without complications. These methods have been successful but are costly.

We describe an inexprensive and effective method in which a Foley's self-retaining catheter was inserted intraoperatively in a case of inoperable malignancy with gross ascites and left in situ permanently, thus facilitating continuous drainage of ascitic fluid. The intraoperative placement of this peritoneal drain avoids the complication of visceral injury as it is under direct vision unlike previously described methods, which are done under ultrasound or computed tomographic guidance.

Electrolyte imbalances, seen in large volume paracentesis, did not occur and this is probably as a direct result of the fact that drainage was slow and continuous, thus allowing the body to adjust its homeostatic mechanisms gradually in order to maintain electrolyte levels within the normal range.

Another advantage of the use of a Foley's catheter is its self-retention without need for sutures, and hence easy removal and replacement with minimal training when blockage occurs. This is a fast outpatient procedure lasting approximately ten minutes. The formation of an established tract stimulated by the presence of the catheter means that the procedure can safely be done blindy without danger of injuring intraperitoneal viscera. It is conceivable that relatives or caretakers of the patient can be trained to replace the blocked catheter at home, thereby keeping hospital admissions to an absolute minimum and avoiding complications of repeated paracentesis.

Complications such as peritonitis or malignant seeding of the fistula or ostium have not to date been experienced by our patient.

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