# EDITORIAL

## PERCUTANEOUS ENDOSCOPIC SIGMOIDOPEXY: A COST-EFFECTIVE MEANS OF TREATING SIGMOID VOLVULUS IN SUB-SAHARAN AFRICA?

Percutaneous endoscopic sigmoidopexy (PES) has been shown to be effective in managing recurrent sigmoid volvulus in unfit patients (1), its use having evolved from the percutaneous endoscopic gastrostomy technique. Under endoscopic guidance, a tube is passed into the colonic lumen and secured. Subsequent fibrosis fixes the bowel serosa to the abdominal wall preventing torsion. Currently, its use in the West is advocated in selected patients who are unfit for surgical intervention. Sigmoid volvulus is a common cause of intestinal obstruction in sub-Saharan Africa (2,3). In contrast to the West where elderly females have a predilection to the condition, in Africa young males are predominantly affected. Surgery is associated with increased mortality rates and patients who have ischaemic or gangrenous bowel have been shown to have worse outcomes. Studies have shown that there is a recurrence rate of up to 43% after initial endoscopic reduction (4), late recurrence being associated with lower rates of bowel ischaemia (5). About 60% of patients with acute sigmoid volvulus can be successfully decompressed by sigmoidoscopy with elective or semi-elective resection being carried out at a later date. The principles of PES may be transferable and used to manage recurrent sigmoid volvulus in under-resourced clinics and hospitals or as an additional option in patients cared for in larger centres in Africa.

Prior to the procedure, the patient should be carefully counselled and informed consent is obtained, bowel preparation is given as for routine colonoscopy. An oral purgative followed by a phosphate-based enema 24 hours and 2 hours prior to the procedure respectively. Antibiotic cover is administered in the form of a broad-spectrum cephalosporin and metronidazole. Intravenous sedation can be given if requested by the patient. A colonoscope is inserted into the proximal sigmoid colon until transillumination is noted on the skin surface and finger pressure over this area is seen to indent the colon. Employing a standard percutaneous endoscopic gastrostomy tube kit the snare is passed down the scope. After infiltration with local anaesthetic a 2-3 cm incision is made in the skin and a 14 gauge Seldinger needle is passed through the abdominal wall into the adjacent bowel. This needle is visualised by the colonoscopist and the snare passed over it. A guidewire is passed through the Seldinger needle and grasped with the snare. The snare, guidewire and colonoscope are then withdrawn through the anal canal. The guidewire is securely tied to the catheter system (20 F size) and pulled retrogradely through the bowel and abdominal wall. The catheter is then secured snugly against the abdominal wall using the internal retention bumper and external appliance and the colonoscope reinserted to check its final position. This is repeated in the distal sigmoid colon to provide a '3-point fixation' of the colonic segment (the 2 PES tubes and the sigmoid mesocolon being the points of fixation). Antibiotics are continued for five days after the procedure. The sigmoid colon will eventually be fixed to the abdominal wall by fibrosis. The tubes can be removed at a later date (> 6 weeks) or replaced with a flatter, flanged appliance that does not protrude and cause the patient inconvenience.

The non-operative management of sigmoid volvulus minimises patient morbidity and mortality. In sub-Saharan Africa, where many healthcare systems are under-resourced, PES offers many advantages. It does not need to be performed under general anaesthesia, there is a shorter hospital stay and it employs currently available skills and equipment. It also does not carry as many risks as open surgery. Theatre and nursing costs are therefore reduced.

Despite these positive points, the procedure does have the disadvantage of carrying an appreciable risk of early peritonitis due to faecal leakage, especially if the tube migrates. Other complications that have been encountered with this technique include site infection, internal herniation and pain from the site (1). This occurs in only a minority

of patients but they must be carefully counselled as to these risks. The risk of internal herniation can be minimised by using up to four tubes and placing them closer together (6). Contraindications to the procedure include ischaemic, gangrenous or perforated bowel, malignancy and diverticulosis. The lack of primary community care in many African countries may impact on the postoperative care of these patients vis-à-vis the PES tube site but patients can be easily educated on how to manage these sites until tube removal. Tube removal at less than six weeks is associated with an increased risk of volvulus recurrence (1) as has the placement of less than two PES tubes. Nineteen PES procedures have been performed in our unit for recurrent sigmoid volvulus in patients unfit for surgery. Two PES tubes are inserted in each patient unless not technically feasible. There was one case of peritonitis and a 16% incidence of site infection but the majority of patients (89%) had no recurrence or serious morbidity from the procedure (unpublished data).

Our experience and previously published data confirm the efficacy of PES in carefully selected cohorts in the Western population. It is proposed as a means of elective sigmoidopexy in sub-Saharan Africa but its efficacy and safety in this polulation needs to be validated by pilot studies and clinical trials with the appropriate clinical governance mechanisms in place.

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