

which may be difficult in up to 10 % of cases. Upto 25 % of these patients are left with a permanent stoma, inspite of having a normal distal rectum.

This study carried out under diverse circumstances, over a prolonged period by a single surgeon is significant in at least two ways. First and the foremost, it establishes the safety of the procedure. Secondly, for us it has reinforced our belief, that it is the procedure of choice in almost all left sided colonic obstruction in competent hands.

The spectrum of pathology seen in our study is somewhat similar to that presented in other studies¹⁰.

Our dissection technique² is uniform in that the inferior mesenteric vessel pedicle is ligated at its origin, and the left colon is mobilized upto the distal left 1/3rd of transverse colon, ensuring tension free anastomosis.

We had no incidence of clinical anastomotic leakage, however subclinical leakage was initially studied by a barium enema on 8th postoperative day but this was later discontinued. The only death in our series, was of a 93 year old lady, who died of myocardial infarction 12 hrs. after surgery. A hospital stay of 16.5 days is actually better than that reported in comparative studies^{8,9} (23.6 days), and much better than 37.3 days and 57.5 days for Hartmann's procedure and three stage procedure respectively.

It was not possible for us to directly assess the cost effectiveness⁶. A single operation instead of three, a shorter duration hospitalization and management without stoma care were indirect indicators of cost effectiveness of on table lavage and primary anastomosis.

It might be concluded that on table lavage and primary anastomosis is a treatment of choice in left sided large bowel obstruction, as it obviates the need of colostomy and saves the patient from further operation, reducing both the morbidity and mortality, and at the same time it is safer and more cost effective. However for junior surgeons in training initial colostomy may be a safer option.

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The colonic lavage was done through the foley's catheter using warm saline till the effluent was clear. The catheter was then removed and the appendicular stump ligated and buried. Distal rectal stump was also cleaned with rectal washout. The drainage tube was then removed from the proximal end of the colon and limited resection of the margins was performed, ensuring good vascularity. A single layered end to end colorectal anastomosis was constructed. Peritoneal lavage was done with warm saline. Peritoneal drainage was sparingly used (15 cases only). Postoperatively a barium enema, on 8th postoperative day was initially done (in 8 patients) to access sub-clinical leakage but this practice was later abandoned.

Results:

During the period of trial from 1985 to 1992, a total of 80 patients with left sided large bowel obstruction were subjected to on table lavage and primary anastomosis. The pathology most commonly encountered was adenocarcinoma in 56 patients (Table I). Of these, the majority (50) comprised of growths in the sigmoid colon and upper rectum (Table II). 31 patients were found to be in Dukes stage B, 19 in stage C and 6 patients in Dukes stage D (Table III). The other pathologies encountered were diverticular disease (18), sigmoid volvulus (5), & Hirschsprung's disease (1). The average time for colonic lavage was 30 minutes, and the average operating time was 2 hours and 30 minutes.

TABLE I
Pathologies present

Pathology	No. of patients	Percentage
Adenocarcinoma	56	70.0%
Diverticular disease	18	22.5%
Sigmoid volvulus	05	06.3%
Hirschsprung's disease	01	01.2%

TABLE II
Site of carcinoma

Site	No. of patients
Rectosigmoid junction	17
Sigmoid colon.	27
Ascending colon/ splenic flexure	06
Upper 1/3 rd of rectum	06

TABLE III
Dukes staging

Stage	No. of patients
Stage "A"	Nil
Stage "B"	31
Stage "C"	19
Stage "D"	06

There was one death in the immediate post operative period. This makes the mortality of approximately 1.25 %. There were 6 instances of wound infection. 8 patients had post operative chest complications. 2 patients suffered from deep vein thrombosis, which responded to treatment. There was no clinical evidence of leakage from anastomosis. Subclinical leak was not determined as we could not justify doing a barium enema in all cases. The average hospital stay was 16.5 days, varying from 10 days to 24 days.

Discussion

Since being described by Dudley in 1980², table lavage and primary anastomosis is being performed more frequently. The fear that this procedure might result in increased incidence of anastomotic leakage, are unfounded. The matter is now being addressed with increasing vigour^{3,4}. The integrity of anastomosis depends upon three principles viz, good vascularity of both ends, tension free anastomosis and clean bowel. All these three principles were strictly adhered to.

The frequently adopted three stage procedure is probably recommended⁵ because of its safety in the hands of junior surgeons, who operate these cases in middle of the night. It has got certain disadvantages. Patients especially the elderly, do not adopt well to a stoma. This procedure combines the longest period of hospitalization, with delay in removal of the diseased colon. Multiple hospital admissions and operations are required, which significantly increase the cost of surgery⁶. In addition the formation and subsequent closure of colostomy^{1,5} is associated with a morbidity rate ranging from 5 -57%, and a mortality rate in the range of 0 - 34 %.

Hartmann's procedure is the most favoured procedure in the United Kingdom for left sided obstructed colonic lesions^{7,8}. However this procedure is also associated with an incidence of anastomotic leakage on reversal⁹. Furthermore it requires a colostomy for 2 -3 months, adaptation to

IS ON TABLE LAVAGE AND PRIMARY ANASTOMOSIS TREATMENT OF CHOICE FOR LEFT SIDED LARGE BOWEL OBSTRUCTION ?

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Abstract

A series of 80 patients with left sided large bowel obstruction were managed by on table lavage and primary anastomosis during the period of 7 years from 1985 -1992. All but one patient did well with no evidence of anastomotic leak. There were 6 wound infections, and 2 deep vein thrombosis. The average hospitalization time was 16.5 days. There was one death. The commonest pathology was adenocarcinoma of colon and rectum. Our study establishes the safety and effectiveness of on table lavage and primary anastomosis for the management of left sided colonic obstruction.

Key Words : large bowel obstruction, primary anastomosis, on table lavage.

Introduction

Traditionally left sided large bowel obstruction is managed in three stages namely, initial colostomy, later resection anastomosis, and finally closure of colostomy¹. This method of management of the left sided large bowel obstruction is considered to be the safest method, this might be true for the junior surgeons in training, but in experienced hands, one stage resection, on table colonic lavage^{2,3,4} and primary anastomosis is a safe method with reduced morbidity and mortality and is more cost effective.

Patients & method

All patients, who were presented with left sided large bowel obstruction during the period 1985 - 1992 were included in the trial. After resuscitation and correction of fluid and electrolyte balance, patient was prepared for surgery. All patients had a plain abdominal radiograph and a sigmoidoscopic examination. Barium enema was only sparingly done (8 patients). A urinary catheter was passed and nasogastric aspiration initiated. Perioperative antibiotic prophylaxis in the form of 5 doses of cephalosporins and metronidazole, and thromboembolic prophylaxis in the form of

Heparin 5000 iu. bid subcutaneously was given till the patient was mobile.

Procedure

All patients were placed in Lloyd Davis position, and explored through a long midline incision. After the initial exploratory laparotomy and confirmation of diagnosis, the left colon was mobilized. Splenic flexure was mobilized in all cases to ensure tension free anastomosis. Inferior mesenteric pedicle was ligated and divided at its origin. Resection was performed in the standard fashion. The proximal end of colon was threaded over a corrugated anaesthetic tube, or Paul's tubing and a ligature of No. 2 silk was tied firmly. The other end of the tube was drained into a bucket. The colon was then decompressed by removal of clamps and miling of faeces and air down into the drainage tube. A purse string suture was applied in the caecum around the appendix and appendicectomy performed. A Foley's catheter size 22 to 24 Fr was passed into the caecum and purse string tied (Fig. 1).

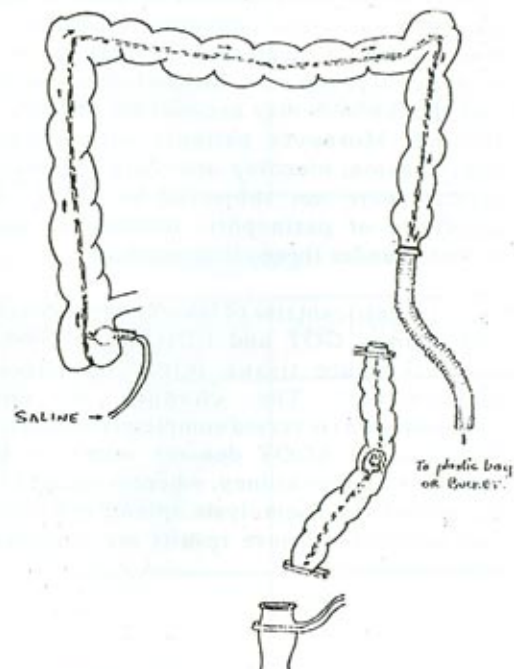


Figure 1 : Diagrammatic illustration of on table lavage.

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