Acute appendicectomy for appendicular mass: a study of 87 patients

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(Index words: Low morbidity, shorter hospital stay, minimal perioperative complications)

Abstract

Objective To study the feasibility of acute appendicectomy in patients with an appendicular mass.

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Patients From January 1998 to May 2001, 87 patients were diagnosed and operated for appendix mass within 24 h of admission. None of the patients had any associated complications.

Intervention A McBurney's incision with Rutherford-Morrison extension was made in most patients.

Results 48 patients presented with a classical appendix mass. 25 patients (28.7%) had classical features of appendix abscess, and in 14 (16.1%) a loculated collection of pus (10 to 50 ml) was found. Operative time ranged from 45 to 90 min (mean 65). Pathologic evidence of appendicitis was present in all patients. 71 patients were discharged on the seventh postoperative day. 15 patients developed minor wound infection. One patient developed band obstruction, which subsided spontaneously on conservative treatment. Rest of the patients are doing well.

Conclusion Low morbidity, reduced hospital stay, low cost and patient compliance favour operative management of appendicular mass by experienced surgeons thus obviating the old practice of conservative treatment followed by interval appendicectomy.

Introduction

The management of appendicular mass has been a subject of debate among surgeons worldwide. Operative procedures range from acute appendicectomy (1), early appendicectomy (2), and interval appendicectomy, to in-hospital non-operative treatment (3). Others have gone a step further to question the role of operative treatment after resolved appendicular mass (3). Our study was undertaken to determine patient outcome following appendicectomy for appendicular mass.

Methods

This study was done in the Department of Surgery, BSMCH and H, Bankura from January 1998 to May 2001. 87 patients were operated for appendix mass. A complete history was taken, and the patients were examined thoroughly. WBC count, blood urea nitrogen and urine analysis were

obtained in all patients. Plain films of the abdomen and ultrasonography were performed in some. None of the patients had any associated complications to contraindicate operation. Preoperatively the patients were resuscitated with intravenous fluids and broad-spectrum antibiotics ampicillin (100 to 125 mg/kg), gentamicin (5 mg/kg), and metronidazole (50 mg/kg).

A McBurney's incision with Morrison extension was made in most patients. Vertical incision was made for large masses outside the right lower quadrant. The appendix was removed after gentle finger dissection and submitted for pathological examination. A sample of pus when present was submitted for culture and antibiotic sensitivity. The appendix stump was not inverted. After peritoneal lavage with isotonic saline, a tube drain was left in the area and brought out through a stab wound. All layers of the wound were closed with Vicryl sutures. In grossly infected cases open wound management was followed with either delayed primary or secondary suture. The rest were closed primarily.

All patients received intravenous antibiotics for two days postoperatively. They were discharged when afebrile and had no drainage or wound infection with advice to return for follow up. All the patients were followed up monthly for 6 months.

Results

There were 50 male patients. The ages of the 87 patients ranged from 6 to 68 years. 51.7% of the patients were between 20 and 40 years. Their illness ranged from 3 to 9 days (mean 5.8); 48 patients (55.2%) presented with typical right iliac fossa (RIF) pain, vomiting and palpable lump in the RIF. 39 patients (44.8%) had features of septic peritonitis. Of the patients with RIF lump, 10 patients (11.5%) had a previous history suggestive of acute appendicitis, which had subsided spontaneously or with antibiotic therapy.

71 patients (81.6%) were from lower socioeconomic groups mostly comprising farmers and daily wage labourers. They avoided operation until it was absolutely necessary fearing operative expenditure and loss of working time.

The size of the RIF mass ranged from 4 to 6 cm by 5 to 7 cm on abdominal examination. However the masses always proved at surgery to be much larger than anticipated. 25 patients (28.7%) had classical features of appendix

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abscess and fourteen (16.1%) had loculated collection of pus (10 to 50 ml).

Operative time ranged from 45 to 90 min (mean 65). Pathologic evidence of appendicitis was present in all the patients. The pus culture report showed anaerobic streptococci (76.9%) *Escherichia coli* (19.8%) and *Staphylococcus aureus* and (2.6%), and sterile culture in 0.7%.

The mean postoperative hospital stay was 9 days (range 7 to 21). 71 patients were discharged on the seventh postoperative day. 15 patients developed minor wound infection. One patient developed band obstruction, which subsided spontaneously on conservative treatment. 65 patients were followed up for 6 months without any complication. The other 22 patients are still undergoing follow up. Of these, one patient has returned with an incisional hernia.

Discussion

Appendicular mass is formed as a result of inflammatory walling-off of a perforated appendix. In various series the incidence ranges from 2% to 6% (4). Surgeons are not unanimous regarding the management of appendicular mass. Many surgeons advocate non-operative and expectant management (4), although this is not always possible. Some surgeons believe interval appendicectomy to be superfluous (5).

The conservative management gained wide acceptance in the belief that operation carries a higher mortality and morbidity because of spread of infection, inadvertent injury to caecum and ileum, and consequent peritonitis or enterocutaneous fistula. We did not encounter these complications in our series. Most of our complications were limited to local wound infection (17.2%). Proponents of conservative management are of the view that patients who have recovered from appendicular lump do not get recurrent appendicitis (3). In one such series 27.7% responded well to initial management and did not return to hospital for operation. In those patients who underwent interval appendicectomy operative histopathologic findings revealed obliterated appendicular lumen and missing appendix in 25.6%. The rest had a normal appendix or pathological variants liable to precipitate an acute attack. As a definitive investigation to distinguish such patients has not yet been evolved it is reasonable to advise appendicectomy for all patients with appendix mass.

A notable disadvantage of conservative treatment is the chance of missing other conditions mimicking

appendicular mass eg. ileocaecal tuberculosis, carcinoma caecum (6, 7).

Interval appendicectomy is usually performed 6 to 8 weeks after an acute attack when the inflammation has resolved. Its disadvantages include recurrent attacks, multiple admissions, longer hospital stay and additional cost. Contrary to claims resolution may not occur in a few days (1). As most of our patients were from lower income groups, a readmission would mean loss of working days putting an additional strain on their purse.

Operating immediately after diagnosis, the so-called acute appendicectomy, when tissue edema is present allows uncomplicated dissection owing to easy identification and separation of tissue planes. It is important to recognise the "difficult" masses before exploration, which should be treated conservatively. These include, a mass 1 to 3 weeks old, a large mass and an immobile mass. The advantages of acute appendicectomy over other treatment options clearly outweigh the limited disadvantages. The advantages include low morbidity, reduced hospital stay, eliminating chances of misdiagnosis, low cost, and providing the patient with a definitive management plan. It is emphasised, however, that acute appendicectomy for appendicular mass requires an experienced surgeon and careful dissection.

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