Management of an appendix mass

If an appendix mass is present and the condition of the patient is satisfactory, the standard treatment is the conservative Ochsner—Sherren regimen.

This strategy is based on the principle that the inflammatory process is already localised and that inadvertent surgery is difficult and may be dangerous.

It may be impossible to find the appendix and, occasionally, a faecal fistula may form.

For these reasons it is wise to observe a non operative programme, but to be prepared to operate should clinical deterioration occur.

It is helpful to mark the limits of mass on the abdominal wall using a skin pencil.

A nasogastric tube should be passed and intravenous fluid and antibiotic therapy started.

Temperature and pulse rate should be recorded 4-hourly and a fluid balance record maintained.

Clinical improvement is usually evident within 24—48 hours at which time the nasogastric tube can be removed and oral fluids introduced.

Failure of the mass to resolve should raise suspicion of a carcinoma or Crohn’s disease.

Using this regime approximately 90 per cent of cases resolve without incident.

It is advisable to remove the appendix usually after an interval of 6—8 weeks.

Clinical deterioration or evidence of peritonitis is indication for early laparotomy.

Criteria for stopping conservative treatment of appendicular mass

Postoperative complications

Postoperative complications following appendicectomy are relatively uncommon and reflect the degree of peritonitis that was present at the time of operation and undercurrent diseases that may predispose to complications.

“The mortality and complication of appendicitis is in the delay “

Wound infection

This is the most common postoperative complication which occurs in 5—10 per cent of all cases.

This usually presents with pain and erythema of the wound on the fourth or fifth postoperative day, often soon after hospital discharge.

Treatment is by wound drainage and antibiotics when required.
The organisms responsible are usually a mixture of Gram-negative bacilli and anaerobic bacteria, predominantly Bacteroides species and anaerobic streptococci.

**Intra-abdominal abscess**

Postoperative spiking fever, malaise and anorexia, developing 5—7 days after operation, suggest an intraperitoneal collection.

**Interloop, paracolic, pelvic and subphrenic** sites should be considered.

**Abdominal ultrasonography and CT scanning** greatly facilitate diagnosis and allow percutaneous drainage.

Laparotomy should be considered in patients suspected to have intrabdominal sepsis in whom imaging fails to show a collection, particularly those with continuing ileus.

**Ileus**

A period of adynamic ileus is to be expected after appendicectomy, and may last for a number of days following removal of a gangrenous appendix.

Ileus persisting for more than 4—5 days, particularly in the presence of a fever, is indicative of continuing intra-abdominal sepsis and should prompt further investigation.

**Respiratory**

In the absence of concurrent pulmonary disease, respiratory complications are rare following appendicectomy.

Adequate postoperative analgesia and physiotherapy, when appropriate, reduce the incidence.

**Venous thrombosis and embolism**

These are rare except in the elderly and women taking the oral contraceptive pill.

Appropriate prophylactic measures should be taken in such cases.

**Portal pyaemia (Pylephlebitis)**

Pylephlebitis is a rare but very serious complication of gangrenous appendicitis associated with high fever, rigors and jaundice.

It is due to septicaemia in the portal venous system and may leads to the development of intrahepatic abscesses (often multiple).

Treatment is with systemic antibiotics and percutaneous drainage of hepatic abscesses as appropriate.
Faecal fistula

Leakage from the appendicular stump rarely occurs, but may follow if the encircling stitch has been put in too deeply or if the caecal wall was involved by oedema or inflammation.

Occasionally, a fistula may result following appendicectomy in Crohn’s disease.

Adhesive intestinal obstruction

Adhesive intestinal obstruction is the most common late complication of appendicectomy.

At operation often a single band adhesion is responsible.

Occasionally, chronic pain in the right iliac fossa is attributed to adhesion formation after appendicectomy.

In such cases laparoscopy is of value in confirming the presence of adhesions and allowing division.

Right inguinal hernia

This is said to be more common following a grid-iron incision for appendicitis due to injury to the iliohypogastric nerve

Recurrent acute appendicitis

It is not uncommon for patients to attribute such attacks to ‘biliousness’ or dyspepsia.

The appendix in these cases shows fibrosis indicative of previous inflammation.

Chronic appendicitis, per se, does not exist.

Mucocele of the appendix

Mucocele of the appendix may occur when the proximal end of the lumen slowly becomes completely occluded, usually by a fibrous stricture, and the retained secretion remains sterile.

The appendix is greatly enlarged and sometimes it contains several millilitres of mucus.

The symptoms produced are those of mild subacute appendicitis unless infection supervenes, when the mucocele is converted into an empyema.

Rupture of a mucocele of the appendix is a cause of pseudomyxoma peritonei.

Occasionally, the mucocele is caused by a mucus secreting adenocarcinoma, in which case a right hemicolectomy is the correct treatment.

Neoplasms of the appendix

Carcinoid tumour (syn. Argentaffinoma)
Carcinoid tumours arise in argentaffin tissue (Kulschitzky cells of the crypts of Lieberkuhn) and are most commonly found in the vermiform appendix.

Carcinoid tumour is found once in every 300—400 appendices subjected to histological examination and is 10 times more common than any other neoplasm of the appendix.

In many instances the appendix had been removed because of symptoms of subacute or recurrent appendicitis.

The tumour can occur in any part of the appendix, but it frequently does so in the distal third.

The neoplasm feels moderately hard, and on sectioning the appendix it can be seen as a yellow tumour between the intact mucosa and the peritoneum.

Microscopically, the tumour cells are small, arranged in small nests within the muscle and have a characteristic pattern using immunohistochemical stain for Chromogranin B.

Unlike carcinoid tumours arising in other parts of the intestinal tract, carcinoid tumour of the appendix rarely gives rise to metastases.

Appendicectomy has been shown to be sufficient treatment, unless the caecal wall is involved, the tumour is 2 cm or more in size, or involved lymph nodes are found, otherwise right hemicolecction is indicated.

Primary adenocarcinoma of the appendix is extremely rare.

It is usually of the colonic type and should be treated by right hemicolecction as a second-stage procedure if the condition is not recognised at the first operation.

Psoas

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