RESULTS

The results obtained from this study are as follows:-

The incidence of complications in unperforated appendix was 3.61 %. The incidence of complications in perforated appendix was 35.3 %. The cases of wound infection were 4 with the incidence of 44.5 % , one case was in the form of infected haematoma of the wound, the raimaining 3 cases were of classic type. Most of the cases were in the middle age, 3 males and a single female, two cases were found to be ruptured gangrenous appendix and one case was found to be catarrhal inflammation and other case of suppurative non obstructed appendix. In one of them no drain was left, intraperitoneal rubber drain was applied in 2 cases, and extraperitoneal drain was applied in one case. Two cases of peritonitis were present in one case the peritonitis was present before appendicectomy and peritonitis continued for a period after the operation. In the other case the peritonitis developed after removal of the appendix. In both cases drain was applied.

The incidence of peritonitis is 22.2% . One case of external faecal fistula was encountered with the percentage of 11.1%. The case was a faemale child and she recovered completely under conservative treatment. One case of paratytic ileus was met and relieved under conservative treatment with incidence of 11.1 %. Also one case of incisional hernia was met, and repair was performed, its incidence was 11.1 % . The mortality rate was Non.

Number and types of complications per patient

Type of inflammation	No.	Infected wound.	Peritonitis	Faecal fistula	Paralytic ileus	Incisional hernia.
Catarrhal	41	1				
Suppurative non obstructed	23	1				
Suppurative obstructed	19		1			
Perforated	14	2	1	1		1
Early Mass	3				1	
TOTAL	100	4	2	1	1	1

DISCUSSION

According to Condon 1977 postoperative complications occur in only 5 percent of patients if an unperforated appendix is removed intact, but in over 30 percent of patients with gangrenous or perforated appendicitis. The incidence of perforation is less than 20 percent in the first 24 hours of symptoms, but rapidly climbs to over 70 percent after 48 hours. There is considerable urgency in making a correct diagnosis and accomplishing appendectomy within 24 hours after the onset of symptoms in order to reduce the incidence of complications. The more frequent complications of appendectomy include wound infection, pelvic, subphrenic, and intraperitoneal abscesses, fecal fistule, pylephlebitis, and intestinal obstruction (Condon, 1977).

In our series among 100 cases of appendicectomies we encountered 9 postoperative complicated cases(9%). The wound infection was the most common complication which formed (44.5%) from all complications that we encountered. Following that peritonitis (22.2%) then the external faecal fistula formed the next frequent complication which formed

(11.1%). Paralytic ileus (11.1%), and incisional hernia, each complication formed (11.1%).

The complications of appendicectomy are essentially those of acute appendicitis except for those conditions which complicate the operative procedure of appendectomy, anesthesia, or the general postoperative and convalescent states. Furthermore, there are few complications of acute appendicitis as long as the infection is contained within the appendix, but once the infecting bacteria have penetrated the peritoneal appendicular surface or have invaded the regional circulation, any one or more of a series of serious complications may develop. Thus the emphasis has been rightly placed on early removal of the inflamed appendix, before perforation has occurred, as the best method of preventing complications (Altemeier and Culbertson, 1975).

Fifty years ago, 15 of every 100,000 persons in America could expect to die each year of appendicitis. Today, mortality has decreased to less than 1 in 100,000 persons annually (Condon, 1977). The mortality risk of an individual patient with acute but not gangrenous appendicitis is less than 0.1 percent. In gangrenous appendicitis

mortality rises to about 0.6 percent. The mortality rate of perforative appendicitis today is approximately 5 percent, down from over 50 percent a half century ago and over 25 percent just 25 years ago. In our study the mortality rate was Non and the morbidity rate was Nil. Although the mortality of appendicitis has decreased progressively, morbidity from appendicitis continues to be high . Overall, morbidity currently occurs in 10 percent of all patients with appendicitis. Wound infections account for one third of all morbidity. The presence of gangrene or perforation increases the morbidity risk four or fivefold, wound infection rates of 40 to 50 percent being commonly reported (Lewis et al., 1975; Mittelpunkt and Nora, 1966; Spitz, 1969).

Delay in carrying out appendectomy is often due to uncertainty of diagnosis or to trial of antibiotic therapy. The use of antibiotics in an attempt to avoid or postpone appendectomy ignores the fact that acute appendicitis begins as an obstruction. Observation until typical or definite symptoms appear is dangerous and ill-advised. Exploration to discover the cause of minimal symptoms , even in poor-risk patients, is safer than waiting (Howie, 1966).

The most common complication is wound infection during appendicectomy, the layers of the incision should be sedulously guarded against infection, which is so prone to occur after excision of a ruptured or gangrenous appendix. Infection or abscess formation superficial to the aponeurosis should be treated by judicious incision, drainage, and antibiotic therapy. But when the pus lies deep or is thought to be intraperitoneal, the wound should be re-explored and drained.

Wound abscess is seen most frequently after perforative cases. It may arise from infection of a superficial wound haematoma and be subcutaneous. The removal of one or two stitches will usually release the pus and healing is rapid. More serious is the formation of a deep abscess between muscle layers or between peritoneum and muscle. This collection may remain quiescent for a few days but may suddenly cause quite marked toxaemia, local pain, swelling and tenderness. It may be revealed unexpectedly by a sudden gush of pus from a rather uncomfortable wound an unexplained temperature then drops rapidly to normal. In other instances a fluctuant mass may point at or near the wound and incision may be required.

Such deep abscesses are often caused by infection of haematoma arising from inadequate haemostasis.

Frequently the conversion of a muscle-splitting incision into a muscle-cutting incision leads to such a complication. With adequate incision and drainage such abscesses clear up completely although the induration of adjacent tissues may persist for several weeks.

The best method to prevent wound abscesses contamination of the parietal layers must be avoided by the use of suction within the peritoneal cavity while dealing with effusions or purulent collections. Haemostasis must be complete and if contamination has been suspected the provision of a small extraperitoneal drain is helpful. The local application of a mixed sulphonamide and antibiotic powder in the parietal layers is probably of value (Shepherd, 1960).

A study at the Reading District Hospital on 451 consecutive patients undergoing appendicectomy through grid-iron incisions sought to determine factors influencing wound infection and the effects of a prophylactic

wound-spraying procedure. Wound infection increased with the severity of appendicular inflammation and was well correlated with the degree and nature of bacterial contamination at the time of wound closure. The infection rate was reduced by about one-half when either an aersol antibiotic powder formulation of povidone iodine or an aerosol antibiotic powder spray containing neomycin, bacitracin, and polymixin was sprayed on the wound before and after closure. The reduction of infection achieved by spraying with povidone iodine was significant (Gilmore and Martin, 1974).

It was found that faecal fistula following operations for appendicitis and appendicular abscess is often seen within 48 hours of operation and its appearance may coincide with a marked improvement in the patient's condition. This complication is commonly due to erosion of a portion of the caecal wall by a drainage tube, to necrosis of a circumscribed part of the caput caeci, or to the giving way of the ligatured appendix stump. Other possible factors in the development of such a fistula are failure to find a faecolith, failure, probably deliberate, to remove the appendix, associated diseasee.g. carcinoma in the caecum or ileum e.g. regional ileitis and, finally the presence of a

foreign body (Black burn , 1956).

As reguards its types there are two varieties of faecal fistula-external and internal. External faecal fistula is sometimes exceedingly difficult to distinguish between a faecal fistula and a discharging haematoma infected with Esch. coli. The discharge from an Esch.coli abscess may simulate that from a faecal fistula in that it may be highly offensive and dark brown in colour, and gas may bubble up from time to time from the depth of the wound. Eventually, however, the true nature of the discharge-liquid faeces-leaves no room for doubt. A faecal fistula has to be distinguished from a persistent sinus. A persistent sinus following appendicectomy may be due to retention of a drainage tube, a swab, an unabsorbed suture or a faecal conceration. Actinomycosis and regional ileitis are other causes of persistent sinus in this region (Maingot, 1948).

In subphrenic suppuration there are few local signs of inflammation in the majority of patients. The possibility of a subphrenic abscess should be considered in any patient who is not doing well after appendectomy

for ruptured appendicitis and who maintains or exhibits an increase in the general signs of infection between the seventh and fourteenth days. Elevation of a sustained type of fever is usually followed by a septic spiking fever associated in some instances with chills and sweats. The white blood cells count characteristically is elevated, and the respiratory rate is increased. Occasionally tenderness of the tip of the twelfth rib posteriorly, intercostal space tenderness or lateral subcostal tenderness and muscle spasm may be found on careful physical examination.

Radiologically there is elevation and impairment of motion of the diaphragm, fixation of the diaphragm, and occasionally an air or fluid level within the abscess cavity itself. Change in position of the patient during X-ray examination may yield useful information about the relative position and size of the abscess containing gas and fluid. In abscesses located in the left subphrenic space the diagnosis may be particularly difficult. Examination of the stomach after ingestion of barium may show displacement of the fundus to the right and inferiorly , with a mass interposed between the elevated diaphragm and the fundus.

The treatment of subphrenic abscesses is drainage by one of several approaches placed over the area of the abscess. Operation should be performed as early as possible and not delayed untill the X-ray findings have developed. Approaches to abscesses in the subphrenic and subhepatic area may be through subcostal incisions, transverse flank incisions, posterolateral thoracic two-stage procedures through the bed of the eighth rib, and the retroperitoneal approach of Ochsner and DeBakey through the bed of the tenth rib posteriorly (Altemeier and Culbertson, 1975).

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