

TWO CASES OF PERFORATED APPENDIX ASSOCIATED WITH PREGNANCY

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Perforation of appendix and suppurative peritonitis is a serious abdominal condition and when it occurs during pregnancy it presents a problem of great magnitude for diagnosis as well as management. Both, the mother and the foetus are exposed to dangerous complications.

Two cases of perforated appendix in pregnancy are reported below:

Case 1.

A 2nd gravida of 26 years who had first uneventful normal delivery was admitted with acute generalised pain in abdomen for the last 6 hours. She had amenorrhoea of 28 weeks. The pain was associated with frequent vomiting and her temperature was 100°F.

On examination the patient looked pale and in acute distress. Her pulse rate was 120/mt. and the tongue was dry and coated. The uterus was enlarged upto 28 weeks' size. Foetal parts were felt but foetal heart sound could not be located. Tenderness, although generalised, was more marked on the right side. Abdominal distension and rigidity of recti-abdominus muscle was also more marked on the same side. Bowel sounds were absent.

On pelvic examination the cervix was parous and the signs of onset of labour were absent.

Laboratory investigations revealed leucocytosis of 18000 per Cmm. with predominance of

polymorphs. Haemoglobin was 60% (9 gm) and large number of pus cells were present in the urine. A plain x-ray of abdomen was inconclusive.

A provisional diagnosis of appendicitis was made. Two other possibilities like cholecystitis and intestinal obstruction, however could not be completely excluded. A general surgeon was consulted and conservative line of treatment was decided upon. Gastric aspiration and fluid infusion were made. Patient's condition deteriorated further. The distension increased and pulse rose to 140/mt. with poor volume. On second consultation with surgeon (6 hours later) laparotomy was decided.

Right paramedian incision was made. Pus exuded out of abdominal cavity. Appendix was situated behind the mid part of the gravid uterus. It had a perforation of approximately 1" at its base with a gangrene extending down to the caecum. Omentum and intestines were adherent to the perforated appendix. Gradually the adhesions were separated and appendectomy was performed. Considering the extent of infection and gangrene involving the appendix and base of the caecum a caecostomy was performed with continuous drainage. Appendix was sent for histopathological examination.

During postoperative period heavy sedation and duvadilan injections were administered to avoid premature labour. Reverin injection were given 8 hourly. Ryle's tube aspiration and fluid infusion was continued. The temperature ranged between 100°F to 103°F for several days. On urine culture *B. coli* was isolated which was found sensitive to Chloromycetin and as such Chloromycetin injections were given.

In spite of heavy sedation with pethidine and duvadilan, she went into labour and delivered

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Accepted for publication on 30-9-75.

an alive premature female child on the 4th postoperative day. Fortunately, no complications occurred during labour, but the premature child expired after a few hours.

Bowel movements were established from 8th post-operative day and patient was allowed to drink juice and fluid by mouth. Drainage tube was removed on 6th day. Faecal matter started coming through the caecostomy wound from 8th day. On 10th day her bowel moved spontaneously and she was allowed to take solid food by mouth. The caecostomy wound closed in about 15 days time.

Case 2.

A 4th gravida, aged 30 years was admitted at 32 weeks of pregnancy with acute pain in the abdomen associated with occasional vomiting. She was in fairly good condition with rapid pulse 120/mnt. and dry tongue. Bowel movements were normal. There was extreme tenderness on right side of the abdomen extending down from the right hypochondrium to right iliac fossa. Guarding of muscle was also present on the right side.

Blood examination showed leucocytosis of 22000/cm and haemoglobin, 68%.

Presentation and position of the foetus was normal and there were no signs of labour. Diagnosis of appendicitis was made. Within 2 hours of admission of the patient laparotomy was performed. The appendix was found to be perforated. There were adhesions all around which were dealt with and appendicectomy performed. Drainage tube was left in. Postoperative management was carried out on the lines mentioned in the previous case. Premature delivery of an alive female child occurred 48 hours after the operation. The baby expired after 4 hours. Postoperative recovery otherwise was uneventful.

Discussion

The incidence of appendicitis complicating pregnancy varies from 1 in 1000 to 1 in 10,000 as reported by various authors. For obvious reasons we could not find our statistics because our patients suspected of surgical complications are sent to surgical wards and death with there. It is encountered more frequently in the 1st and 2nd trimesters

and least in the third trimester of pregnancy.

Appendicitis occurs in pregnancy with more or less the same frequency as in general population. Evidently pregnancy does not predispose to appendicitis but when it occurs during pregnancy its manifestations are severe, and the clinical picture confusing. Several factors like increased vascularity, increased lymphatic circulation around the appendix, displacement of appendix leading to early strangulation and delay in the diagnosis are the various factors considered responsible for the serious nature of the disease in pregnancy.

The correct diagnosis of acute appendicitis at any time carries a justifiable error of 20 per cent, since the presence of gravid uterus further confuses the issue. In our first case the diagnosis of peritonitis was made but diagnosis of perforation was confirmed on laparotomy only. Although the incidence of burst appendix with pregnancy is rare, the possibility should always be kept in mind.

The assessment of the symptoms referring to the gastrointestinal tract during pregnancy is confusing too. Distention, pain, nausea and vomiting may as well be due to cholecystitis, intestinal obstruction, peptic ulcer, abruptio-placentae and also due to pyelonephritis.

In cases under discussion the tenderness was above and lateral to the uterus hence abruptio-placentae was excluded. It was difficult to differentiate between cholecystitis, appendicitis and intestinal obstruction, especially after peritonitis had set in.

Laboratory investigations are not of much help in the diagnosis. The usual leucocytosis of pregnancy lowers the significance of the test and so does the existence of microscopic pyuria. There is no

single diagnostic test and even the value of radiological investigations is debatable. However, one x-ray is advisable to look for multiple fluid levels.

Prompt surgery is the essence of the successful management. Warfield (1950) has correctly said "The mortality of appendicitis in a pregnant woman is the mortality of delay".

Incidence of abortion and risk to the mother are higher if surgery is delayed when peritonitis sets in or perforation has occurred.

This explains the cause of premature delivery in our cases even after heavy sedation and isoxsuprine hydrochloride injections. Hoffman and Suzuki (1954) found that the foetal death rate was 11% when the appendix was involved but it rose to 35% in the presence of peritonitis.

McBurney's incision at the point of maximum tenderness gives the most satisfactory approach, provided there is no peritonitis. High transverse incisions are also used by some surgeons because of the high situation of the appendix. In our cases right paramedian incisions were chosen because the diagnosis was doubtful. Caecostomy was done in the first case because there was perforation of appendix with gangrenous changes extending down to the caecum. There was fair chance that the pursestring suture at the caecum would give way and foecal peritonitis would follow. If patient survived this catastrophe a foecal fistula

would follow. It was, therefore, considered better to make a caecostomy to create a formal foecal fistula which is far more safe and which would spontaneously heal in 2 to 3 weeks time.

Abortion and premature delivery is a major problem in postoperative period. The place of heavy doses of progesterone first advocated by Lackner and Tuskey (1932) and also advocated by Thanford *et al* (1969) is debatable. Sedation and duvadilan in liberal doses have a definite role.

Our aim in presenting this paper is to emphasize that since the diagnosis of appendicitis is difficult during pregnancy and since its delay is directly proportional to the foetal and maternal mortality, we should keep such a possibility always in mind and if appendicitis is suspected, it should be operated upon without delay with the help of the surgeon rather than sending the patients to surgical ward.

We, the Obstetricians are ectopic minded. We should also be appendicitis minded to improve our results.

References

1. Hoffman, E. S. and Suzuki, M.: *Am. J. Obst. & Gynec.*, 67: 1338, 1954.
2. Lacker, J. E. and Tulsting, A. B.: *Am. J. Surg.*, 46: 362, 1932.
3. Thanford, N. R., Patti, R. W. and Teteris, N. J.: *Surg. Gynec. & Obst.*, 129: 489, 1969.
4. Warfield, C. I.: *Postgrad. Med.*, 8: 10, 1950.