Laparoscopic appendicectomy in mid trimester

B D Gamage¹, V Vidyabhushana², A S D Liyanage¹, C Fernando²


Abstract

Appendicectomy is the commonest non obstetric indication for surgical intervention during gestation. Laparoscopic approach is proven to be superior to open surgery in gravid patients with suspected appendicitis. It excludes other pathologies that can mimic appendicitis and entail pregnancy risks and remove the inflamed appendix at the same setting which is therapeutic. We report a case of acute appendicitis presented at 19 weeks of gestation treated by laparoscopy. Laparoscopy is safe and feasible throughout gestation and has other advantages like improved post-operative morbidity and better cosmetic outcome.

Case report

A twenty five year old primi in her 19th week of gestation presented to us with right lower quadrant pain and vomiting for 2 days. The pain was not of classical migratory nature (visceral somatic shift) of appendicitis. She didn’t have fever but felt constitutionally unwell. Her appetite was poor. There were no other symptoms related to genito-urinary or gastrointestinal systems. Her pregnancy was uncomplicated hitherto and she never had similar episodes during this gestation.

On examination she looked unwell but apyrexial. The level of hydration was poor. Her pulse rate was 84 beats per minute. The right lower quadrant was tender, but there were no guarding or rigidity. Rectal or gynaecological examinations did not reveal any pelvic tenderness.

Blood investigations showed neutrophil leucocytosis (22400/mm³) and elevated CRP (96mg/l). Urinalysis was unremarkable and ultrasonography was equivocal. Foetal well being was confirmed and obstetric causes for the symptoms were excluded.

She was kept nil by mouth and intravenous fluids and antibiotics (IV Co-amoxiclav 1.2 g 8 hourly) were commenced. Diagnostic laparoscopy was decided upon to exclude appendicitis or other abdomino-pelvic pathology.

Pneumoperitoneum was achieved by open (Hassan) technique via a 5 mm port at the umbilicus. Peritoneal survey was done with a thirty degree 5 mm telescope. Intense inflammatory adhesions were noted at the right iliac fossa. Gravid uterus was recognized but there were no evidence of pathological changes involving pelvic viscera including both ovaries and salpinx.

Two more working ports (5 mm/10 mm) were introduced to explore the RIF as shown in the diagram. Adhesiolysis was performed. A grossly inflamed unruptured appendix was recognized at the paracaecal region with small amount of inflammatory exudates around it. Appendicectomy was performed and the specimen was sent for histological analysis. Peritoneal cavity was washed with warm saline.

Figure 1.
Patient recovered uneventfully and oral feeds were started on the same day evening. She was discharged from the hospital on the following day. Histopathology report confirmed appendicitis.

Discussion

Acute appendicitis in pregnancy is relatively a rare phenomenon with an incidence of 0.1-0.2% pregnancies each year. However, it is the most common cause of non obstetric indication for surgical intervention in this group. Of all surgical problems during pregnancy, appendicitis causes the greatest incidence of foetal loss. The particular danger of appendicitis in pregnancy lies in the varied presentation of symptoms and higher chance of delayed diagnosis.

Delayed or undiagnosed appendicitis risks both mother and the foetus. The incidence of foetal loss is 1.5% in uncomplicated appendicitis and 35% in the presence of ruptured appendicitis. On the other hand negative appendicectomy rates in gravid patients have been reported as high as 22% to 55%. This is presumably due to over diagnosis and treatment by the clinicians in an attempt to minimize maternal and foetal complication rates. However, the diagnosis of appendicitis obligates surgical intervention.

Laparoscopy is proved to be a safe, feasible and efficacious intervention in assessment of gravid patients suspected to have appendicitis. It has the advantage of identifying other intra-abdominal pathology which may mimic appendicitis and harbor pregnancy risks. The diagnosis of appendicitis in the index case was not evident at the outset. Right lower quadrant tenderness, vomiting, poor appetite, elevated leucocyte count and CRP were the clinical features to suggest appendicitis. Ultrasonography was equivocal. Diagnostic laparoscopy was therefore justified in our patient as computerized tomography involves unacceptable radiation exposure.

Pregnant patients can undergo laparoscopy safely during any trimester without any appreciated increased risk to the mother or the foetus. The safest time to perform laparoscopic surgery in pregnancy is at the second trimester. Our patient was in the second trimester (19 weeks) and she didn’t have other contraindications for laparoscopy or anaesthesia. Positioning of ports will be governed by the size and the position of the gravid uterus. Open (Hassan) technique of pneumoperitoneum is proved to be the safest at any trimester and entry via umbilicus was feasible in our patient as she was in her 19th week of gestation. We could diagnose acute appendicitis confidently in our patient and could exclude other abdomino-pelvic pathologies for her symptoms and institute appendicectomy at the same setting which was therapeutic.

Occurrence of miscarriage, premature labour or foetal death appears to be related to the underlying pathology, independent of the operative intervention. Our patient recovered without any complications and had only one day of hospital stay post procedure.

Conclusion

Laparoscopy appears to be a safe and feasible approach for gravid patients with presumed acute appendicitis. Prompt diagnosis and timely intervention with combined obstetric care can improve the outcome.

References