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A study of patients with RIF pain & diagnosed as appendicitis in pregnancy and its outcomes.

Dr. Sanket Katara[1], Dr. Lakir Patel[2], Dr. Nishith [3], Dr. Akash Rathod*
[1] *Assistant Professor in Department of surgery, AMC MET Medical College,Maninagar*
[2] *Senior Resident in Department of surgery, AMC MET Medical College,Maninagar*
[3] *Assistant Professor in Department of surgery, AMC MET Medical College,Maninagar*
**Corresponding author: Dr. Akash Rathod*
Assistant Professor in Department of Surgery,
AMC MET Medical College, Maninagar, Ahmedabad, India

Abstract
Background: *Acute appendicitis is one of the most common surgical complication found in obstetrics patient unrelated to obstetrics. In our study we have considered cases of pregnant females in previous three years.*
Methods: *In our study we took 20 pregnant females who were operated for open appendicectomy. We have compare criteria like age, gender, clinical finding, blood investigations, radiological investigations, intra-op finings, and also considering average hospital stay, days of admission and postoperative results.*
Results: *16Out of a*
20 patients, 16 patients were operated for appendicectomy, out of 16 patients 4 were operated by laparoscopic and 12 by open method with no post operative complication to mother and faetus.
Conclusions: *Although pregnancy is challenging area for surgical management of appendicitis but with early intervention prevents further morbidity and mortality.*
Keywords: *appendicitis, pregnancy, surgical intervention*

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I. Introduction

Acute appendicitis is one of the most common surgical complications found in obstetrics patient unrelated to obstetrics. Most of the cases occur during second trimester. Appendicitis is challenging not only in treatment but also in diagnosing as pregnancy itself has symptoms of nausea, vomiting or fever.[1,2] But RIF pain with tenderness associated with fever nausea vomiting should always be considered as a suspect for appendicitis and further radiological investigations should be performed.

In our study we have considered all such parameters like diagnosis, management and further postoperative results in case of pregnant females presenting with appendicitis.

II. Methods

In this study we considered 20 pregnant females who were presenting in tertiary care centre with RIF pain and compared for age, gender, term of pregnancy, clinical presentation, blood and radiological examination and postoperative results.

Diagnosis of pregnancy was confirmed by ultrasonography. And for appendicitis all clinical presentation, total count and ultrasound were considered and after Alvarado scoring surgical intervention was planned.

Surgical procedures were all done under general anaesthesia and spinal anaesthesia.Most cases were of open surgeries and in some cases laproscopic approach was considered depending on severity of presentation of patient.

III. Results

Average age of presentation of pregnant females with appendicitis was 26 years. 10 patients were in second trimester while, 6 patients were in first trimester and 4 were in third trimester.

Clinical presentation were fever, abdominal pain, nausea and vomiting. 7 patients presenting with only abdominal pain while 8 patients presented with all four symptoms. All patients underwent ultrasound in which 14 of them showing positive findings of appendicitis while 6 showing appendix not visualised and 2 showing normal appendix. Of which 16 had acute appendicitis and two were operated on clinical bases.

As laparoscopic approach requires higher skill only few non suspects were operated by this method and it took on an average 56.5 minutes mean time for operative time while open surgeries took 51.7 minutes mean time for completion of surgery.

No foetal or maternal mortalities were found with no maternal morbidity. Overall good postoperative outcome as opposed to conservative management in other studies.

IV. Discussion

Problem with appendicitis in pregnancy is, pregnancy itself has its own symptoms and clinical signs. During second trimester as uterus enter abdominal cavity and compresses abdominal viscera which may produce symptoms hiding similar symptoms caused by other abdominal pathologies. Pregnancy also produces various changes in the body physiology leading to chances of increased infection such as UTI which also raised WBC count. Various changes in pregnant female physiology may also produces a challenge in management of the patient. For surgical management many broad categories to be considered like coagulation profile, inflammatory response of the body etc. Acute appendicitis has a peak incidence in the second and third decades coinciding with the childbearing years, and the incidence in pregnancy appears broadly the same as in the non- pregnant, whereas the rate of perforation and subsequent complications are greater.[3]

In our study four patients considered for laparoscopic surgical management which were diagnosed as appendicitis, while 4 were found to be having normal appendix. Rest were clinically and radiologically diagnosed appendicitis, on which open surgery performed.

With increasing gestational age, radiological diagnoses becomes difficult especially after beginning of second trimester as uterus enters the peritoneal cavity and chances of normal appendix increases as happened in our study with 20-30% normal appendix compared to 15-35% in general surgery cases.

Delay in diagnosing and management of appendicitis is also proportionally related to foetal mortality with 1-5% in non-ruptured appendix while increasing to 20% in perforated appendix. This was proved in our study as no foetal mortality was recorded as all the cases were managed and operated on the day of admission itself. Furthermore, increasing gestational age reduces diagnostic accuracy and is associated with increased rates of appendiceal perforation and hence complications.[4]

Due to low socioeconomic status of most patients MRI was not considered in this study. So ultrasound was considered the main modality in this study but as for diagnosis CT is a gold standard which is contraindicated in pregnancy .[5,6] In our study 14 patients showed appendicitis in USG and other two were operated on clinical basis were having appendicitis with normal sonography findings.

Laparoscopic surgeries are better in terms of good postoperative recovery and in undiagnosed rif abdominal pain case easy and early diagnoses of normal appendix.[7,8,9] But they require a higher level of skill set and longer time period of operative procedures. So, in our study only suspects with possible less chances of appendicitis were considered for laparoscopic procedure while rest were considered for open procedures. clinically severe cases having very high WBC count. Although no adverse effects of either open or laparoscopic procedure was found in our study on foetal or maternal health.[10] Also, laparoscopically operated patients had early recovery with better postoperative outcomes with early discharges as compare to open method.

Acknowledgements

Early operative management should be considered in appendicitis in pregnant females as delaying increases complication including maternal and foetal mortality. Early intervention as such has less morbidity as expected in pregnant females according to there physiology and have better outcome rather than non-surgical management.

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