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APPENDICITIS IN PREGNANCY

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ABSTRACT:-

Appendicitis is a condition, in which, the appendix becomes swollen and inflamed. Acute appendicitis during pregnancy is the most common surgical emergency.

Appendicitis in pregnancy will need surgical intervention due to chances of perforation and sepsis. It may affect the pregnancy due to septicaemia. It is a small protrusion in the shape of a worm-like pouch and is attached to the large intestine. The functionality of appendix is unclear, especially since its removal does not seem to affect a person's health in any way.

However, new studies are exploring the possibility that the appendix may contain and protect bacteria that are beneficial in the function of the human colon. The most common form of treatment for appendicitis is surgery, which includes removal of the appendix.

Symptoms

If a pregnant woman experiences pain in the area to the right side below her abdomen, it is likely to indicate appendicitis, as that is the most common symptom irrespective of gestational age. The abdominal pain experienced as a result of

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this condition, has a few defining characteristics. It usually occurs suddenly, and if it starts at night, then it causes a person to wake up with a start. This pain may start near the belly button, and then move lower and to the right. As time progresses, the pain quickly progresses in severity. It makes simple movements as well as taking deep breaths, coughing, or sneezing, extremely painful. The debilitating pain induces other changes, such as loss of appetite, nausea, and vomiting, which may be viewed as other symptoms of the condition.

Diagnosis

Pregnancy makes appendicitis more difficult to diagnose. The altered state of the body makes it difficult to detect this condition. The displacement of the appendix by the uterus and increased separation of the visceral and parietal peritoneum, decreases the ability to localize tenderness during a physical examination. The possibility of other conditions, such as pyelonephritis and twisted ovarian cyst, also need to be considered. Additionally, physiological changes that take place in pregnancy, such as leukocytosis (raised white blood cell

count) and a reduced tendency to develop hypotension, and tachycardia can worsen the condition. Also, some of its symptoms, such as nausea and

vomiting are similar to those experienced during pregnancy. Despite all these spokes, the patient's history and physical examination are useful indicators of appendicitis. Responses of rebound tenderness and guarding, that usually indicate this health problem are considered less common in late pregnancy, due to the loosening of the abdominal wall muscles. Ultrasonography might prove useful during the first trimester, in detecting this problem.

Treatment

Surgery needs to be performed early for best results. Rupture of the appendix can be dangerous for the mother and her baby. Immediate surgery, along with perioperative antibiotics, can be vital in preventing the bursting of the appendix, and reduce the hazard it would present to both lives. A laparoscopic appendectomy or an open appendectomy may be performed, depending on what is best for the mother.

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Though both are considered equally safe, if conditions allow, laparoscopic surgery has the advantage of lesser narcotic use, better intraoperative visualization, reduced postoperative pain, quick return of bowel function, early ambulation, and a shorter stay in the hospital after the surgery. However, it does raise a few concerns, including increased intra-abdominal pressure and the use of carbon dioxide pneumoperitoneum.

Complications

Labor can arise during or after surgery, although, preterm delivery is rare. In some cases, threatened premature labor has been due to a ruptured appendix. In such cases, emergency operation with the use of antibiotics was the best treatment. There have been cases, wherein, delay in operating has led to premature delivery.

A pregnant woman exhibiting any of the symptoms, should contact her medical practitioner immediately. The health of the mother and her baby depends on proper care and prompt attention.

Appendisectomy

An appendectomy (sometimes called appendisectomy or appendicectomy) (English) is the surgical removal of the vermiform appendix. This procedure is normally performed as an emergency procedure, when the patient is suffering from acute appendicitis. However, a 12-hour delay had no effect on outcomes, in a large retrospective study.^[1]

In one large observational study in 2003, 30-day mortality was 1.8% in an adult population.^[2]

Appendectomy may be performed laparoscopically (this is called minimally invasive surgery) or as an open operation. Laparoscopy is often used if the diagnosis is in doubt, or if it is desirable to hide the scars in the umbilicus or in the pubic hair line. Recovery may be a little quicker with laparoscopic surgery; the procedure is more expensive and resource-intensive than open surgery and generally takes a little longer, with the (low in most patients) additional risks associated with pneumoperitoneum (inflating the abdomen with gas). Advanced

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pelvic sepsis occasionally requires a lower midline laparotomy.

In general terms, the procedure for an open appendectomy is as follows.

Surgeons perform a laparoscopic appendectomy.

1. Antibiotics are given immediately if there are signs of sepsis; otherwise, a single dose of prophylactic intravenous antibiotics is given immediately before surgery.
2. General anaesthesia is induced, with endotracheal intubation and full muscle relaxation, and the patient is positioned supine.
3. The abdomen is prepared and draped and is examined under anesthesia.
4. If a mass is present, the incision is made over the mass; otherwise, the incision is made over McBurney's point, one third of the way from the anterior superior iliac spine (ASIS) to the umbilicus; this represents the position of the base of the appendix (the position of the tip is variable).

5. The various layers of the abdominal wall are opened.
6. The effort is always to preserve the integrity of abdominal wall. Therefore, the external oblique aponeurosis is split along the line of its fibers, as is the internal oblique muscle. As the two run at right angles to each other, this reduces the risk of later incisional hernia.
7. On entering the peritoneum, the appendix is identified, mobilized and then ligated and divided at its base.
8. Some surgeons choose to bury the stump of the appendix by inverting it so it points into the caecum.
9. Each layer of the abdominal wall is then closed in turn.
10. The skin may be closed with staples or stitches.
11. The wound is dressed.
12. The patient is brought to the recovery room.

Incisions

The following incisions are placed for appendectomy:

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- 1) McBurney's incision also known as Grid iron incision
- 2) Lanz Incision
- 3) Rutherford morrision
- 4) Para-median incision

Over the past decade, the outcomes of laparoscopic appendectomies have compared favorably to those for open appendectomies because of decreased pain, fewer postoperative complications, shorter hospitalization, earlier mobilization, earlier return to work, and better cosmesis. However, despite these advantages, efforts are still being made to decrease abdominal incision and visible scars after laparoscopy. Recent research has led to the development of natural orifice transluminal endoscopic surgery (NOTES). However, there are numerous difficulties that need to be overcome before a wider clinical application of NOTES is adopted, including complications such as the opening of hollow viscera, failed sutures, a lack of fully developed instrumentation; and the necessity of reliable cost-benefit analyses.

Many surgeons have attempted to reduce incisional morbidity and improve cosmetic outcomes in laparoscopic appendectomy by using fewer and smaller ports. Kollmar et al. described moving laparoscopic incisions to hide them in the natural camouflages like the suprapubic hairline in order to improve cosmesis. Additionally, reports in the literature indicate that mini-laparoscopic appendectomy using 2–3 mm or even smaller instruments along with one 12-mm port minimizes pain and improves cosmesis. More recently, studies by Ates et al. and Roberts et al. have described variants of an intracorporeal sling based single-port laparoscopic appendectomy with good clinical results.

There is also an increasing trend towards single incision laparoscopic surgery (SILS), using a special multiport umbilical trocar. With SILS, there is a more conventional view of the field of surgery compared to NOTES. The equipment used for SILS is familiar to surgeons already doing laparoscopic surgery. Most importantly, it is easy to convert SILS to conventional laparoscopy by adding a few trocars, this conversion to conventional laparoscopy

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being called 'port rescue'. SILS has been shown to be feasible, reasonably safe and cosmetically advantageous, compared to standard laparoscopy. However, this newer technique involves specialized instruments and is more difficult to learn because of a loss of triangulation, clashing of instruments, crossing of instruments (cross triangulation), and a lack of maneuverability. There is also the additional problem of decreased exposure and the added financial burden of procuring special articulating or curved coaxial instruments. SILS is still evolving, being used successfully in many centres, but with some way to go before it becomes mainstream. This limits its widespread use, especially in rural or peripheral centres with limited resources.

Pregnancy

If appendicitis develops in a pregnant woman, an appendectomy is usually performed and should not harm the fetus. The risk of fetal death in the perioperative period after an appendectomy for early acute appendicitis is 3% to 5%. The risk of fetal death is 20% in perforated appendicitis.

Recovery time from the operation varies from person to person. Some will take up to three weeks before being completely active; for others it can be a matter of days. In the case of a laparoscopic operation, the patient will have three stapled scars of about an inch in length, between the navel and pubic hair line. When an open appendectomy has been performed the patient will have a 2–3 inch scar, which will initially be heavily bruised.

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