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المرحلة الرابعة

**Abdominal pain in pregnancy**

Abdominal pain in pregnancy is a common complaint, It’s management represents a challenge to the clinician because the causes may be due to pregnancy or may be related to pregnancy but not directly due to it or may be unrelated to pregnancy at all

**The anatomy of pain**

1- Uterine body: T10-L1 sensory afferent . These also supply the dermatomes from umbilicus to symphysis. Laterally to iliac crests & posteriorly to lumber and sacral vertebra

2- Cervix: as above , plus additional sensory to S2-4

3- Ovary: mainly sympathetic sensory afferent to T10

4- The gynae sensory nerves overlap with other pelvic & abdominal structures so localization & diagnosis may be difficult

**Classification**

**A. Pain directly related to pregnancy**

**1.First trimester**

* Abortion: The pain is colicky in nature felt in the lower abdomen or pelvis commonly associated with amenorrhoea and vaginal bleeding In threatened & missed abortions there may be mild or no painDiagnosis by BHCG,exam & USS
* Hydatidiform mole: Incidence is 1 in 1200 pregnanciesPain when present is due to the uterus trying to expel the molar tissue (colicky)When severe may suggest intra-peritoneal bleeding Uterus large for date ,watery blood stained dischargeUSS shows snow – storm appearance
* Ectopic pregnancyIncidence is 1 in 100 pregnancies in UKPresents with pain & amenorrhoea The pain is commonly in one of the iliac fossa and may be referred to the tip of the shoulderMost of cases are diagnosed by BHCG,TVS and/or laparoscopy

2. **Second trimester**

\* Abortion

\* Acute urinary retention in association with incarcerated retroverted gravid uterus typically at 12-14 weeks, urine cathter to empty the bladder helps allow the uterus to become abdominal &relieve pain

\* Chorioamnionitis following PROM Presents with intermittent or constant abdominal pain May be associated with vaginal discharge, abdominal tenderness and maternal & fetal tachycardiaTreatment with antibiotics and expediting delivery

\* Retroplacental haemorrhage following amniocentesisCan complicate both diagnostic & therapeutic amniocentesis especially when the needle inserted transplacentally Pain is felt a few hours after the procedure Constant & localised to the puncture site

\* Round ligament pain due to stretch classically at 18-22 wks Occurs secondary to stretching of the ligament as the uterus enlarges into the abdomen (10-30% of pregnancy)Commonly occurs in the late 1st and early 2nd trimester Felt as dragging, stabbing or cramp-like pain in the outer lower abdomen radiating to groin Diagnosis is made by excluding other causes

\* Red degeneration of the fibroid Occurs due to infarction of the centre of the fibroid during mid –pregnancyThe fibroid suddenly enlarges & is painful and tendre The pain is ischaemic ,constant and localised to one side of the uterus but sometimes diffuse. Mild pyrexia leucocytosis. USS may be helpful Treatment is conservative

**3**. **Third Trimester**

**a.Fetal movements & Braxton-Hicks contractions**

* These are spontaneous uterine contractions becoming more frequent as pregnancy advances.
* Initially painless but then perceived as vague backache which is minimally uncomfortable but does not need analgesia, however can be sever requiring hospital admission commonly in primigravida

b. **Placental abruption** Presents with abdominal pain with or without vaginal bleedingComplicates up to 1% of pregnancies Abdominal pain could be mild constant or intermittent (like labour pains)When no vaginal bleeding, can be confused with other causes of abdominal pain. A high index of suspicion is essential

**c. Sever Pre-eclampsia & eclampsia;** Pain is mainly at the epigastrium & Rt upper quadrantIt’s due to stretching of the liver capsule secondary to subcapsular haemorrhage

d. **Uterine rupture:** Unlikely to occur silently during pregnancy but it can occur in women with previous classical C/S usually from early 3rd trimester.Others occur in labour in women who had c/s or perforated uterus during D/CThe abdominal pain typically acute, associated with shock & shoulder tip pain

**B.Pain not directly related to pregnancy**.

**Gastro-esophageal reflux**

A common cause of upper abdominal pain in pregnancy. Incidence 60-70%More common in late pregnancy multiple pregnancy & polyhydramnios Felt as burning sensation in epigastrium & behind the sternumCaused by relaxation of gastro-esophageal sphincter.

**Peptic ulcer**

Uncommon during pregnancy Usually there is a pre-existing history Pain typically in the epigasric & Rt hypochodrium worse with hunger & spicy food. Perforation is rare but may occur especially after delivery. Presents with acute pain ,collapse & peritonitis.

**constipation**

May present as sever or chronic abdominal painCaused by slow peristalsis (progeterone effect)Felt as dull, constant & sometimes colicky pain in the iliac fossae Treatment with high fibre diet & laxatives

**Acute appendicitis**

Complicates 1 in 1500-2500 pregnancies (as in non-pregnants)Symptoms & signs may be atypical.Pain may be in the Rt lumber region in early gestation or in the Rt hypochondrium in late pregnancy due to displacement of caecum & appedix by the gravid uterus. The pain in early pregnancy starts around the umbilicus then settles in the RIF Accompanied by nausea, vomiting anorexia & fever however, these symptoms may be absent in late pregnancy . Leucocytosis is an important sign but due to physiological leucocytosis in pregnancy, serial count is more usefulPyrexia, tenderness & guarding over the Rt abdomen may be the only signs presentThe inflammed appendix may induce preterm labour

* Treatment In early pregnancy laparoscopic appendectomy can be done or through the classical McBurney incisionIf laparotomy is necessary, a para- median incision over the area of max tenderness allows the best access if extension is needed

**Bowel obstruction**

Is a rare cause of acute abdominal pain in pregnancy (1 in 2500-3500 )Incidence appears to be increasing due to increased abdomino –pelvic surgery causing adhesion bandsRarely caused by strangulated femoral or inguinal herniae & volvulus. The pain is colicky with exaggerated bowel sounds & constipation. Abdominal distension may be difficult to detect in advanced pregnancy

* Treatment is conservative with N/S tubing, fluid & electrolyte replacement it usually settle within few hours otherwise laparotomy is required to divide adhesions

**Gallstones & cholecystitis**

* Pregnancy predisposes to gallstones due to biliary stasis and raised cholesterol in pregnancy Incidence about 3.5%Most women are asymptomaticSymptomatic Pt’s present with sudden onset of colicky abdominal pain radiating to the back in Rt hypochodriu Nausea, vomiting & vasovagal attacksTenderness & positive murphy’s sign may be the only positive clinical signs
* Diagnosis can be made by ultrasound
* Treatment is coservative Surgery can be performed in early pregnancy laparoscopically Open surgery can be done in advanced pregnancy but risks are ascending cholangitis which may lead to septicaemia & preterm labour

**Pancreatitis**

Uncommon in pregnancy (1 in 5000) More common in pregnants than non High mortality rate (>10%)Presents with central or upper abdominal pain radiating to the backThere may be nausea, vomiting & shock. Few with juandice when there is obstructed biliary system

* Diagnosis confirmed by raised serum amylase
* Ultrasound shows gallstones in 50% of cases
* Treatment is conservative with iv fluid & electrolyte replacement, pethidine, steroids, antibiotics cimitidine & glucgone

**Acute pyelonephritis**

Is the most common renal cause of abdominal pain in pregnancy (1-2%)Most cases present in the 2nd & 3rd trimesters with sever abdominal pain in the lumbar region radiating to the iliac fossa or vulvaNausea, vomiting, pyrexia, rigors & tachycardia with loin tenderness**A**ssociated with increased risk of preterm labour

* **Diagnosis** by MSU for R/E & C/S E. Coli is the most common causeIf recurrent exclude renal anomalies USS during preg. Or IVP 3-4 months after delivery.

**Renal stones**

Affects 0.03-0.05% of pregnant women (as in non-pregnants)Pregnancy does not predispose to stone formation . In fact small stones may passed unnoticed due to ureteric dilatationPresents with loin pain radiating to the suprapubic region the pain may be excruciating & associated with shock Renal tenderness may be the only clinical sign USS may show dilated renal tract or a stone

* Treatment mostly conservative with potent analgesic & liberal fluid intakeIf obstruction persist surgery is indicatedThere is a risk of precipitating preterm labour

**Acute retention of urine**

More likely to occur in the 1st trimester

* Causes include:

 - incarcerated R/v gravid uterus

 - pelvic mass (ovarian or fibroid)

 - acute herpes infection

 **-** vulval haematoma

Presents with sudden onset of sever pain with distended bladder on exam

* Catherterization for 24-48hrs & analgesia are very helpful and allow the gravid uterus to become abdominal

**Adenxal accidents**

* Corpus luteum cyst in early pregnancy may bleed causing pain or rupture causing shock Mostly diagnosed by USS or bimanually if they are large Managed mostly conservatively but if they are large or showing abnormal pathology they should be removed after 14 wks
* Torsion of a pre-existing ovarian cyst

 (benign or malignant) presents with intermittent abdominal pain which later becomes constant (indicating ischaemia). There may be nausea, vomiting, low grade fever and leucocytosis .If ignored the ovary may become gangrenous

* Laparotomy with oophorectomy or fixing the ovary if viableTorsion of a pedunculated fibroid may present in a similar way to torted ovarian cyst. They need to be removed at laparotomy. subserous, intramural fibroid should not be removed as it may end by hysterectomy

**Miscellaneous cause**

Musculoskeletal :

 - exaggerated lumbar lordosis

 - sumphyseal diasthesis

\* sickle cell crisis

\* rectus sheath haematoma

\* porphyria

\* Aortic aneurysm