Abdominal pain in pregnancy

***PAIN: it is vary degree of unpleasant sensation, it may be acute or chronic .**

***Abdominal pain is Avery common symptom in pregnancy, it may be due to pregnancy {red degeneration of fibroid},or may arise from some concomitant lesion as appendicitis.**

***It is convenient to divide the causes of pain in pregnancy into those most commonly found in each of three trimester, although there is considerable overlap.**

CAUSES OF ABDOMINAL PAIN DURING PREGNANCY

- **(A) Pregnancy Related Pain:**
- Early pregnancy
  - Abortion: Inevitable, incomplete or septic abortions
  - Vesicular mole: when expulsion starts.
  - Ectopic pregnancy: pain precedes bleeding.
- Later pregnancy
  - Braxton-Hicks Contraction
  - Round Ligament Pain
  - Pressure symptoms
  - Cholestasis of pregnancy
  - Placental abruption
  - Placenta percreta
  - Acute Fatty Liver
  - Pre-eclampsia , HELLP
  - Spontaneous rupture of the liver
  - Uterine rupture
  - Chorioamnionitis
  - Acute Polyhydramnios
  - Labor (Term , Preterm)

- **(B)Conditions associated with pregnancy**
- Rupture of rectus abdominus muscle
- Torsion of the pregnant uterus
- Acute urinary retention due to retroverted gravid uterus

MusculoSkeletal (Pubic Symphysis pain-sacroiliac – back pain)
Red degeneration of myoma
Torsion of pedunculated myoma
Ovarian cyst rupture
Adnexal torsion

- **© Non-Pregnancy Related Pain**

Gastrointestinal
  - Acute appendicitis
  - Peptic ulcer
  - Gastroenteritis
  - Hepatitis
  - Inflammatory Bowel Complication (Crohn's &Ulcerative Colitis)
  - Bowel obstruction
  - Bowel perforation
  - Herniation
  - Meckel diverticulitis
  - Toxic megacolon
  - Pancreatic pseudocyst

HepatoBliary
  - Biliary Stones
  - Acute Hepatitis
  - Acute Cholecystitis
  - Acute pancreatitis
- Genitourinary
  - Ureteral calculus
  - Acute pyelonephritis
  - Acute cystitis
  - Rupture of renal pelvis
  - Ureteral obstruction
- Vascular
  - Superior mesenteric artery syndrome
  - Thrombosis/infarction - Specifically mesenteric venous thrombosis
  - Ruptured visceral artery aneurysm
- Respiratory
  - Pneumonia
- Other
  - Intraperitoneal hemorrhage
  - Splenic rupture
  - Abdominal trauma
  - Acute intermittent porphyria

***first trimester pain:**

1-Abortion : pain preceded by vaginal bleeding .In the middle &intermit

- Cx losed (threatened abortion)
- open (inevitable abortion)
- U\S –gestational sac inside uterus

2-Ectopic pregnancy: pain typically occurs before bleeding &blood tend to be dark. Pain tends to be limited initially to affected side, although if interpeirtoneal bleeding occurs ,it become generalized &the picture of acute abdomen may develop with shock.

3-pregnancy in rudimentary horn;pain resemble that of ectopic &usually discovered during lapratomy ,if rupture occurs it usually in the mid trimester and of sudden onset with collapse.

4-Acute urine retention ; *is usually due to enlargement of acervical fibroid in response to pregnancy* ,sever lower abdominal wall tenderness, large tender bladder which may mistaken for ovarian cyst. Catheterization for relief of pain

Mid trimester pain;

1-Acute retention of urine;due to incarcerated RVF of gravid uterus.

2-Red degeneration in fibromyoma.

3-Rupture of rudimentary horn containing pregnancy .

4-streching of round ligament.

5-Abortion.

*Red degeneration of fibromyoma: causes pain ranging from mild to severe over the fibroid, tenderness usually present over the fibroid.

*U\S usually detect the fibroid during 1 trimester.

*there may be history of menorrhagia before pregnancy.

Third trimester pain_:Related to uterus

1-Concealed hemorrhage

2-Sever –preeclampsia

3-Red degeneration of fibromyoma.

4-uterine rupture.

5- preterm labour

6-labour.

1-Concealed hemorrhage : pain is of acute onset &is sever with considerable shock and collapse may had been occurred.Associated with tense abdomen in examination& The uterus may be large than expected 'hard tender with difficulty in palpating fetal part.

*Fetal heart is usually absent.

*There may be vaginal bleeding .

*There may be history of hypertension.

2-Sever pre –eclampsia :epigastria pain may occur & is a sign of impending eclampsia.The characteristic sign of pre –eclampsia(hypertention,oedema,protenuria) are present

*The uterus are not tender fetal part are palpable with FHR usually present.

3- Uterin rupture:

Is possibility in highly porous women, those have scarred uterus byc\s, myometomy or perforation. Women usually feel a tearing sensation followed by constant pain ,shock and collapse vaginal bleeding is common fetal part easily felt and FHR usually is absent.

4-Labour pain: may occur prematurely or at term, they are intermittent and gradually become stronger and more frequent.

The **characteristic show** of early labour will be observed, and on **vaginal examination** show dilated cervix.

Incidental cause of abdominal pain: not related to uterus

A-Gastro-enteritis:1-generalized pain assoc with N and V .

2-elevated temperature.

3-tender abdomen without rigidity.

4-stool analysis show organism.

B-Acute appendicitis and pyelonephritis:

*The appendix is displaced up ward and laterally as pregnancy advances and its tip overly the tip of right kidney-appendicitis may be confused with pyelenephritis

***In pyelonephritis** :pain often aching character and felt only in the lumber region.

***In pyelonephritis** the tenderness localized, the temperature tend to be higher pulse rate in relation tempura in appendicitis tend to be lower than.

In case of doubt of lapratomy t is indicated to avoid mortality with appendicitis .

C- Renal and uretric calculi:-

Pain may be confused as pyelitis and radiate to leg,Blood may be present in urine & on U\S show stone in kidney or ureter.

D-Acute pancreatitis: the onset is sudden with sever upper abdominal pain with vomiting ,usually serum amylase and urinary diastase level is elevated. MX-conservative…

E- *Acute cholycystitis* :usually positive history present and pain over right hypochondria radiate to RT .shoulder U\S may show stone in Gall Bladder.

F-Perforation of ahollow organ such as stomach or duodenum, **may occur with sudden pain ,collapse, rapid development generalized peritonitis .Usually history** of peptic ulcer , gastric ulcer are present**.**

G-Strangulated hernia: should be born in mind &hernia sites should be examined.

H-Acute hepatitis: may occur in hyper emesis gravid rum ,in sever pe eclampsia \ eclampsia, acute infective hepatitis, in all these conditions there is apian & tenderness over the liver jaundice is usually soon manifest.

I-Acute intestinal obstruction:some time found in pregnancy &usually there is history of lapratomy with a band of adhesion ,enlarged uterus displace the intestine obstruction occur ,the onset is usually sudden with vomiting ,distention of abdomen and colicky pain are typical.

J-Torsion of ovarian cyst: may occur especially in first trimester, and the pain is at first referred to one or other hypochondria ,acute in onest, associated with vomiting as peritonitis occur with tenderness, rigidity over the tumor with pyrexia\S ---SHOW ovarian cyst.

OTHER causes***:***

1-Diabetic ketoacidosis

2-sickling crisis.

3-Acute prophyeria.

HISTORY

As with most things, history essential to diagnosis: ■

-Location

-Character

-Radiation

-Aggravating/Relieving Factors

PHYSICAL EXAM:

***Uterus displaces abdominal organs**

***Moving omentum does not wall off infection as well**

***Late pregnancy, abdominal wall laxity, may mask rigid abdomen of peritonitis**

Investigations of abdominal pain in pregnancy

*Fetal monitoring •

*Urinanalysis, MSU: infection, proteinuria in pre-eclampsia •

*Full blood count: raised white cell count suggestive of infection, although the white cell count is normally slighty raised in pregnancy

*Liver function tests •

*Ultrasound: may demonstrate ectopic pregnancy, abruption, • miscarriage

*Magnetic resonance imaging : The intrinsic safety of MRI and its • ability to accurately show abdominal and pelvic disease in pregnant patients make it highly useful in the evaluation of these patients.

*Laparoscopy to confirm ectopic pregnancy - Laparoscopy has become • increasingly popular in the treatment and evaluation of acute abdomen. In the past, pregnancy was considered a contraindication for laparoscopy , Care must be taken to minimize manipulation of the uterus. Adjust the location of trocar placement based on uterine size. Monitor *fetal heart tones during the surgical procedure*

Management of abdominal pain in pregnancy:

*A thorough assessment of the wellbeing of the mother and fetus,

as well as the possible underlying cause is required.

* Treatment of cause; urgent hospital referral if uncertain cause, and/or maternal or fetal distress.

*If surgery is required but is considered elective, waiting until after the pregnancy is completed is prudent.

* If surgery is deemed necessary during pregnancy, perform it in the second trimester if possible; the risk of preterm labor and delivery is lowers in the second trimester compared to the third, and the risk of spontaneous loss and risks due to medications such as anesthetic agents are lower in the second trimester compared to the first.

*A pregnancy in a woman with an intra-abdominal inflammatory disease will not be harmed by proper surgical treatment. The fetus is more likely to be damaged if the proper operation is delayed.

*Laparotomy (or perhaps laparoscopy) is indicated if the diagnosis is in doubt or if there is shock

Delivery *Base delivery decisions on obstetric indication*

** The mode of delivery used should also be decided based on obstetric indications.*

**If continuation of the pregnancy is expected to lead to maternal morbidity or mortality, delivery is indicated.*

** If improvement of the maternal condition cannot be expected with delivery, treat the patient with the fetus in uterus*

**The prophylactic effect of tocolytics remains unproven in these patients. If used, tocolytics should be administered with care*

If preterm delivery is likely, glucocorticoids can be administered to the mother to decrease the risk of neonatal complications.