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POST-CESAREAN PAIN CONTROL



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Post-cesarean pain control.

INTRODUCTION

Reproduction is the biological process by which new individual "organisms offspring" are produced from their "parent" or parents. Importance of Reproduction is an important characteristic feature of living organisms. It is an essential life process which not only helps in survival but also helps in continuity of that race and group immortality, as by reproduction. Young ones replace the old and dying ones.

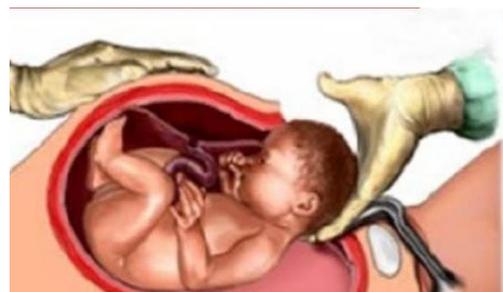
Human Reproduction Humans reproduce sexually by the uniting of the female and male sex cells. Although the reproductive systems of the male and female are different, they are structured to function together to achieve internal fertilization. pregnancy After fertilization the fertilized egg then travels down the Fallopian tube and attaches to the inside of the uterus, where it begins to form the embryo and placenta, and that is Pregnancy which also known as gestation, is the time during which one or more offspring develops inside a woman. A multiple pregnancy involves more than one offspring, such as with twins. Pregnancy lasts about 40 weeks and may be less than that then.

Childbirth the labour is begin either **vaginally** or **cesarean**.

vaginally :The birth is spontaneous in onset and low risk at the start of labor and remains so throughout labor and delivery. The infant is born spontaneously in the vertex position between 37 and 42 weeks of pregnancy.



Caesarean: when the baby cannot be born vaginally which may be due to a variety of reasons to do with the baby or the mother.



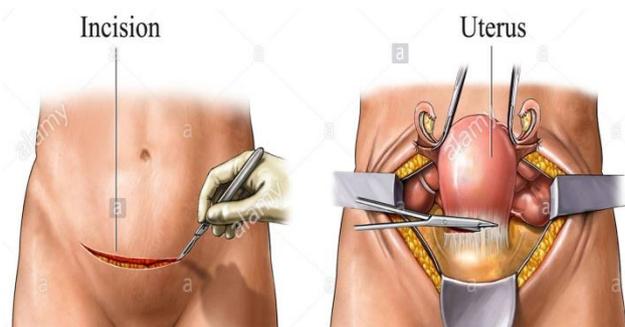
in both type of labor The pain is the most clinical outcome especially associated with caesarean labor adequate post-operative.

Post-cesarean pain control.

CESAREAN SECTION

Caesarean section, also known as **C-section**, or **caesarean delivery**, Is one of the most common surgical procedure performed over the world by which one or more babies are delivered through an incision in the mother's abdomen, often performed because vaginal delivery would put the baby or mother at risk

A **C-section** typically takes 45 minutes to an hour. It may be done with a spinal block, where the woman is awake, or under general anesthesia. A urinary catheter is used to drain the bladder, and the skin of the abdomen is then cleaned with an antiseptic. An incision of about 15 cm (6 inches) is then typically made through the mother's lower abdomen. The uterus is then opened with a second incision and the baby delivered. The incisions are then stitched closed .



Classification indication for cesarean is not simple, there are a-lot of categories .the most used is emergency(**unplanned**) or elective (**planned**).

Planned caesareans are usually done from the 39th week of pregnancy. Causes

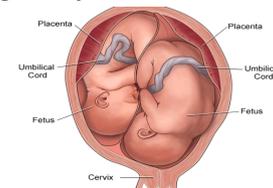
1-Multiple pregnancy.

2-Infection.

3-Pretermbirth.

4-Baby position.

5-The pregnant women may have previous number of abortion and take a lot of progesterone amp.or tab.



Unplanned caesaren may be need if any of the following condition arise during pregnancy .

1-Failur to labor to progress

2-Fetal distress



3-Abruptive placenta

4-Cord compression

PROBLEMS AND COMPLICATION AFTER CESAREAN

In general the most common health problem after cesarean

1-Low back pain.

2-Urinary incontinence.

3-Bowel problem.

4-Painful intercourse.

5-Headach ,margin, depression.

6-Pain in the part of cesarean associated with in all the body.

Here, we can noted the most common problem is pain sensation .

a-Pain and type of pain after cesarean

Pain is a general term that describes uncomfortable sensations in the body.

Moderate to severe postoperative pain affects performance of daily activities and it contributes to persistent postoperative pain. In patients submitted to cesarean section, this pain can also interfere with women's ability to care for their babies, and effectively breastfeed.

Post cesarean pain comes from lesion in tissues or organs generating stimulus perceived as painful . When there is nerve lesion, stretching, or compression, neuropathic pain can be present .

Type of pain after cesarean section

1-Scar pain with neuropathic pain

2-Visceral pain

a-Deep intra abdominal pain

b-Chronic pelvic pain

Post-cesarean pain control.

b-Estimate of pain

assess pain intensity. It is a one-dimensional instrument that allows measurement of perceived pain intensity by numbers to quantify pain. This scale has 11 points (0 to 10), with point 0 (zero) representing no pain and point ten (10) the worst possible pain. The remaining numbers represent intermediate intensities of pain

1, 2, 3, and 4 = mild

5 and 6 = moderate

7, 8, 9, and 10 = severe

Clinically relevant post cesarean pain was considered present when patients assessed it in their worse moment as intensity more than 5, that is, moderate to severe .

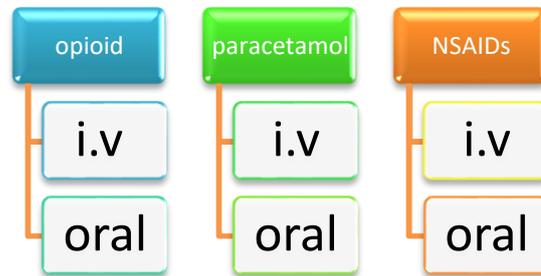
Onset	When did the pain start?
Location	Where is the pain? is located on incision?
Quality of pain	What does the pain be like?
Intensity	How does the severity of pain ?
Previous treatment	If the patient take aspirin or any drugs cause low blood clot?
Effect	How does the pain affect physical function like sleep ?

MANAGEMENT OF PAIN

Effective analgesia is an essential part of post cesarean management . An ideal method of pain relief afterward cesarean section should be cost effective, safe for mother ,require minimal monitoring and use drugs that are not secreted into breast .The mother should not be sedated or imploded by equipment that prevent her .milk. Minor side effect acceptable in general .from moving freely and caring for newborn population like nausea and vomiting. These can be use alone or as part of therapy and the rout of administration can by systemic ,oral ,local. There are may options and choice of use analgesia depend on ,drug availability, cost ,patient acceptability, patient health .

Post-cesarean pain control

In general there are three type of drug we can use it either systemic or orally .



The control on pain after C-section can divided into step :

a-Management inside the hospital

Opioid is the ideal analgesia use in post cesarean section and there are three situation for use opiate might be given: preoperatively, intra-operatively, post-operatively. Opiates given pre- or intraoperatively have important effects in the postoperative period since there may be delayed recovery and respiratory depression .

The Opioids drug

1- Morphine

Morphine is currently the “gold-standard” neuraxial opioid for post cesarean analgesia primarily due to its long-acting effect that can last for many hours after a single.

That give as IV rout 2.5-5 mg q3-4hr, infused over 4-5 minutes dose range, 4-10 mg

That secreted into human milk low and dose-dependent. But lead to serious adverse reactions, including death, in nursing infant .



2-FENTANYL

Was one of a series of opioids have analgesics with enhanced analgesic activity and potency and fewer adverse effect.

give as IV rout with Doses Available per Formulary 0.05 per ml PCA syringe supplied as 250 mcg/5 mL.

That secreted into human milk low and dose-dependent. But lead to serious adverse reactions, including death, in nursing infants.



3-Sufentanil

Is a synthetic opioid analgesic drug approximately 5 to 10 times as potent as fentanyl.

4-Diamorphine

Is a type of strong opioid. It is used in particular to treat pain after a surgical operation.

Side effect of opioid

This common side effect of opioids can often be lessened

- 1- Nausea and vomiting sometimes occur in the first day for taking
- 2-Sedation, Drowsiness
- 3-Deficalty in breathing

b-Management outside the hospital

NSAIDs

The anti-inflammatory and antipyretic properties of nonsteroidal anti-inflammatory drugs (NSAIDs) may reduce visceral pain originating from the uterus, complementing the somatic wound pain relief from the opioid. Also NSAID decrease opioid consumption, and reduce side effects when systemic or neuraxial opioids are administered for post-cesarean. However, even if they are effective in blunting the inflammatory component of the surgical site, their use alone is associated with poor postoperative analgesia.

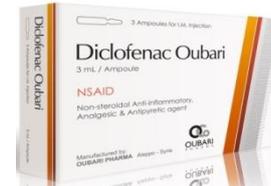
Have two type according to selectivity on cox receptor :cox_1 and cox_2

Post-cesarean pain control

The selective COX-1 inhibitor

Diclofenac sodium : that use for relief pain in dose 12.5 and 25 as tab or IV 37.5

And is most potent NSAID and present in small amount in breast feeding when use in therapeutic dose.



Ibuprofen :that common use for relief pain in dose as tab 200 or 400 and IV 100 and it most safe for breast feeding.

Indomethacin : it has good relief pain but because present in human milk so have adverse effect in newborn from it .

Ketoprofen : that similar to ibuprofen and diclofenac for relief pain and use in 50 and 100 mg orally tab but it has adverse renal and gastrointestinal side effects in breastfed infants whose mothers were taking ketoprofen.

Mefenamic acid :
That also use for relief acute pain in dose 250 , 500 but it present in small amount but maybe found adverse effect in infant from it .

Fenoprofen : is similar to ibuprofen but less side effect also use to relief pain in dose 200 , 400 mg tab . Present in small amount in milk but the long use with high dose lead to increase level of it in milk and effect on newborn.

Piroxicam : Intra-muscular piroxicam was effective in reducing post-caesarean section pain for 24 hours with minimal side-effects and with dose 20mg/2ml or 20mg/ml . That present in small amount in milk but not effect on newborn.

Post-cesarean pain control

The selective cox₂ inhibitor

The use of COX 2 such as celecoxib is not recommended to use because after c-section there is possibility for DVT and cox2 inhibitor increase risk for platelet aggregation .

CASE STUDY

Case 1

A 23 year old pregnant female in 34 week, with history of previous abortion present to ER room with 2 week history of mild to moderate abdominal spasm associate with nausea and vomiting and vaginal discharge with little bleeding ,also sever weakness with high temperature. She previously tried numerous treatment paracetamol ,Novidox, scopinal also she had take progesterone amp. In previous week (take that drug according to her dr also she continuous take aspirin). The OB-GYN sent the patient for do U/S , fall blood test, stool and urin examination. After the doctor see the result of data she told the patient to do immediately C-section.

Data:

Blood hemoglobin : 8.5 g /dl , wbc 13×10^9 (high level of lymphocyte)

Urin examination: show three+++ for bacterial infection

U/S : show abnormal mucosal cell with different size .

Question

- 1-what the diagnosis and what criteria this made up?
- 2-Do you think the c-section is the best choice for these case ?
- 3-How can management and advice the pt after C-section ?

Discussion

1-according to the data:

a-mucosal cell with different size may refer to increase of replication of cell.

b-three positive in urine examination give idea that pt have sever bacterial infection for long period of time.

c-increase number of WBC refer that body response to infection and stimuli immune system and lead to increase temp.

d-increase lymphocyte refer there is viral infection so that mean we have viral infection and secondary bacterial infection .

e-low Hb may refer to bleeding.

2-the patient is so late when discover that she have viral HPV

So it may lead to close cervix of uterus if the patient discover it in first trimester when the size of fetus small So there is a big chance for do surgery and do cervix-cervicls ectopic and can continuous in pregnancy.

3-management before c-section

a-blood transfusion to increase blood Hb (and stop take aspirin)

b-give antiemetic intravenous and paracetamol to reduce fever associated with blood transfusion and pain .

c-let the patient take rest one day before C-section

management after C-section

a-give antibiotic IV ceftriaxone in hospital and cefixime after finish the injection course associated with vaginal supp. Of flagyl .

b- give paracetamol IV to reduce fever and diclofenac to work as anti-inflammatory to reduce the pain .

c- the patient may need lactulose syrup or biscodyl to increase bowel movement and reduce the pain that may come from constipation.

d-may need lidocain to reduce the local pain .

e-advise the patient to use contraceptive or avoid become pregnant for long period of time until the uterus recover itself.

Case-2

A woman attends the antenatal day assessment unit to discuss the result of her glucose tolerance test. She is 42 years old and this is her sixth pregnancy. She has previously had three Caesarean sections, one early miscarriage and a termination of pregnancy. All tests were normal as were her 11–14-week and anomaly ultrasound scans. She is now 26 weeks' gestation and her midwife arranged a glucose tolerance test because of a family history of type 2 diabetes (her father and paternal aunt.

Examination

The body mass index (BMI) is 31 kg/m²

-Blood pressure is 146/87 mmHg. The symphysis .

.fundal height is 29 cm and the fetal heart rate is normal on auscultation

Question

1-What is the diagnosis and on what criteria can this be made?

2-What are the principles of management for this patient?

3-Can this patient take diabetic drug during pregnancy?

4- Its effect when undergoing a caesarean section?

5-How can management after cesarean ?

Discussion

1-The diagnosis is of gestational diabetes mellitus (GDM) and is based on the 2 h . glucose

concentration exceeding 11.1 mmol/L . The diagnosis may also be made if the fasting blood glucose exceeds 7.8 mmol/L, in which case a formal glucose tolerance test would not have been necessary .

The importance of the diagnosis relates to the effect on the mother and fetus

Effects on the fetus

a-fetal macrosomia

b-polyhydramnios

c-neonatal hypoglycemia

d-neonatal respiratory distress syndrome

increased stillbirth rate

Effects on the mother

a-increased risk of traumatic delivery (e.g. shoulder dystocia

b-increased Caesarean section risk

c-increased risk of developing GDM in subsequent pregnancies

percent increased risk of developing type 2 diabetes within 15 years

2-Management principles

-Optimal control of maternal blood glucose minimizes the chance of fetal complications. This needs the multidisciplinary input of a diabetologist, specialist diabetes nurse, dietitian, specialist midwife and obstetrician

-Dietary advice and counseling are the initial interventions (reduced fat and carbohydrate intake with weight control)

Blood glucose monitoring at home should be initiated with pre- and post-prandial levels at each meal.

3-Oral hypoglycaemics are contraindicated in pregnancy

If blood glucose measurements are repeatedly high, insulin should be commenced. The fetus should be monitored with regular ultrasound scans for growth and liquor volume (polyhydramnios being a sign of fetal polyuria secondary to excessive glucose level.

4-Delivery should be planned by 40 weeks, but Caesarean section should be performed

for obstetric indications only.

Sliding-scale insulin should be initiated in labor for women on insulin .

The insulin can be stopped immediately postpartum as normal glucose homeostasis returns rapidly after delivery

The fetus should be carefully monitored for neonatal hypoglycemia.

The mother should have a repeat glucose tolerance test 6 weeks postpartum to rule out

pre-existing diabetes.

After Caesarean section the management is:

1. monitoring the blood of patient , blood glucose level , Bp.
- 2.give the insulin in suitable dose if rise level of blood glucose.
- 3.give suitable antibiotic to avoid infection in the wound .
- 4-give suitable analgesic . with less side effect and don't effect on breast feeding.
- 5-Monitoring health of newborn.

Case 3

A 34-year-old white female, presented to the ED with vaginal bleeding due to Premature . separation of the placenta from the uterus As a result of an epileptic seizure she had

She is suffer from epilepsy since childhood , and before pregnancy his dactor prescribed to her : Tegretol , Librium

After become pregnant , she visited her doctor again to change her drugs

At He give her Lamotrigine

About 500 mg per day

Investigation was done for the pt in the form of blood test and 1 unit of blood was prepared for her

Hb : 10 g/dl

HR : 95

BSL: 133 mg/dL

Bp : 119/81 mmHg

Management :

• Day 0 :

o The pt was admitted to the theater at 2 A.M. , the operation was done under general anesthesia , no B.T was done for the pt and the operation ended with single viable female

handed to the family

o The pt recovered from anesthesia at 3 A.M

o She developed no nausea, no vomiting and no excessive vaginal bleeding apart from the

average blood loss and no reactionary fever with pain at the site of operation

o The pt receive 2 unit of iv fluid and iv ceftriaxone and metronidazole without any B.T

o The urinary catheter and iv fluid were removed at 8 am and the pt started to have oral fluid

diet and urinate freely

o The pt lactated her baby after 6 hrs and started walking around the ward

o The pt also passed flatus and bowel motion and

D _dimer = 0.4

o Give her IV solution (Carnexiv)

10 mg/mL (200 mg/20mL single-dose vial)

• Day 1

o The pt started oral solid diet and continued lactation of baby

o She developed no frequency, dysuria , or N.D or fever , also no chest pain or dyspnea also no excessive N.B

* after a few days

take Advil to relief pain

* 1 month later

She suffered from bleeding ,pus and burning on urination

she visited her doctor and show she is ceftriaxone resistance , she give her Cefepime and acidic vaginal douche twice daily for weak , flgyl supp at night and urical powder twice daily

Discussion

- 1_Do you need to give her clexane ?
- 2_ Do you expect problems to appear in the fetus?
- 3_ How does epilepsy affect on pregnancy?
- 4_Can I breast feeding
- 5_Do you Need folic acid more than other women ?

SUMMARY

This Scientific Research show how women have expectations about pregnancy and

Type of birth that may undergo it . And show details about caesarean section,

It's reasons ,its complications and the most complication is the pain.

And talk about details of pain and its intensity and how can Management the pain and with type of analgesic with low side effect and safe to breast feeding . And explain some cases about

caesarean section and how can Management.

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