University of Basrah
Al-Zahraa Medical College

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# REPRODUCTIVE BLOCK

**Lecture**

**Duration : 1 hour**

# Obstetrics anesthesia and analgesia


*Presented by*

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**GYNAECOLOGY 20th**
**EDITION by Ten Teachers**

# Learning Objectives (LO)

1- Background on Obstetric analgesia & anesthesia
2- Source of pain .
3- methods of pain relieve in labour .
4- Inhalational and epidural analgesia .
5- Pudendal block .
6- Spinal anesthesia .
7- Anesthesia for C.S. .

# LO 1
# Obstetric analgesia & anesthesia

- **Analgesia :loss or modulation of pain perception**
- **Anesthesia: the total loss of sensory perception & may include loss of consciousness.**
- **The amount of pain experienced during labor varies from woman to woman . Very few women find labor painless , but the majority have pain which they describe as severe .**
- **During 1st stage of labor pain is felt with each contraction .The pressure in the uterus between contractions is around 10 mmHg ,during 1st stage contraction the pressure is about 50 mmHg . Most women do not feel pain until pressure reach 25mmHg.**

# LO 2
# Source of pain

**1- Ischemia of the myometrium which occur when blood flow is arrested or impeded by the contraction , the nerve pathway is via hypo gastric plexus & then pre aortic plexus entering the cord as high as 11th &12th dorsal segment via the posterior root.**

**2- Dilatation of the cervix via sacral root S2,3,4.**

**3- Distension of vagina& stretching of vulval orifice . Pain impulses from vulva &perinium are carried by pudendal N. & to small extent by ilioinguinal ,genitofemoral & posterior femoral cutaneous nerve.**

# The ideal analgesia should be

1. **Not harmful to the fetus or mother**
2. **not interfere with uterine action.**
3. **Not depress the respiratory center of the newborn**
4. **Effective.**
5. **Easy to administer.**
6. **Predictable & constant in it”s effect.**

# LO 3
# methods of pain relieve in labour:
## - Non-pharmacological methods

- One-to-one care in labour from a midwife alongside a supportive birth partner has been shown to reduce the need for analgesia

- Relaxation and breathing exercises may help the woman to manage her pain.

- Homeopathy, acupuncture and hypnosis are sometimes employed, but their use has not been associated with a significant reduction in pain scores or with a reduced need for conventional methods of analgesia.

- Relaxation in warm water during the first stage of labor often leads to a sense of wellbeing and allows women to cope much better with pain. The temperature of the water should not exceed 37.5°C.

- **Transcutaneous electrical nerve stimulation (TENS) works on the principle of blocking pain fibers in the posterior ganglia of the spinal cord by stimulation of small afferent fibers (the ‘gate’ theory)**

- **It has been shown to be ineffective in reducing pain scores or the need for other forms of analgesia in established labour. It does not have any adverse effects, but is often disappointing.**

## - Pharmacological methods

- **Opiates, such as pethidine and diamorphine, are still used in most obstetric units , Opiates tend to be given as intramuscular injections; however, an alternative is a subcutaneous or intravenous infusion by a patient-controlled analgesic device (PCA).**

- **Side-effects of opioid analgesia :**

1. **Nausea and vomiting (they should always been given with an antiemetic).**
2. **Maternal drowsiness and sedation.**
3. **Delayed gastric emptying (increasing the risks of general anaesthesia).**
4. **Short-term respiratory depression of the baby.**
5. **Possible interference with breastfeeding.**

# LO 4
# Inhalational analgesia

- **Nitrous oxide (NO) in the form of Entonox® (an equal mixture of NO and oxygen) It has a quick onset, a short duration of effect and is more effective than pethidine. It may cause light-headedness and nausea. It is not suitable for prolonged use from early labour because hyperventilation may result in hypocapnoea, dizziness and, rarely, tetany and fetal hypoxia. It is most suitable later on in labour or while awaiting epidural analgesia.**

# Epidural analgesia

- **Usually started in 1st stage & may be continue through out labor , The epidural catheter is normally inserted at the L2–L3, L3–L4 or L4–L5 interspace inserted between L3,L5. Apolythene catheter is threaded through the needle & left in epidural space so that further injection of drug can be given as required.**

- **The epidural solution is usually a mixture of low-concentration local anaesthetic (e.g. 0.0625–0.1% bupivacaine) with an opioid such as fentanyl. Combining the opioid with the local anaesthetic reduces the amount of local anaesthetic required and this reduces the motor blockade and peripheral autonomic effects of the epidural (e.g. hypotension).**

# Indications and contraindications for epidural analgesia

## Indications

- ✓**Prolonged labour/oxytocin augmentation.**
- ✓**Maternal hypertensive disorders.**
- ✓**Multiple pregnancy.**
- ✓**Selected maternal medical conditions.**
- ✓**A high risk of operative intervention.**

## Contraindications

- ✓Coagulation disorders (e.g. low platelet count).
- ✓Local or systemic sepsis.
- ✓Hypovolaemia.
- ✓Logistical: insufficient numbers of  trained staff (anaesthetic and midwifery).

# Precautions in epidural analgesia

- **Control of B.P.**
- **I.v line should be established**
- **Vasopressor e.x: ephedrine**
- **Barbiturate ;if drug injected I.V leading to C.N.S. stimulation**
- **O2 should be available**

# Complications

- **Spinal tap :hypotension,collapse & respiratory paralysis.**
- **Hypotension because of : pressure of gravid uterus on inferior vena cava which prevent venous return to the heart, vaso dalitation effect of neural block**
- **I.v injection of drug.**
- **Urinary retension**
- **Haematoma formation.**
- **Increase pain sensation in perineal wound after labor**
- **Headache.**
- **Prolonged 2 nd stage of labor**

# LO 5
# Pudendal block

- **It is asimple method that can be used for analgesia at operative delivery including repair of episiotomy,forceps or ventouse delivery,breech & twin delivery.**
- **The anasthetic agent lignocaine hydrochloride 0.5% should be injected as close to ischial spine as possible since the nerve cross behind the tip of the spine, the needle is injected half way between anus & ischial tuberosity or through vaginal wall.**
- **The dose should not exceed 50 ml**

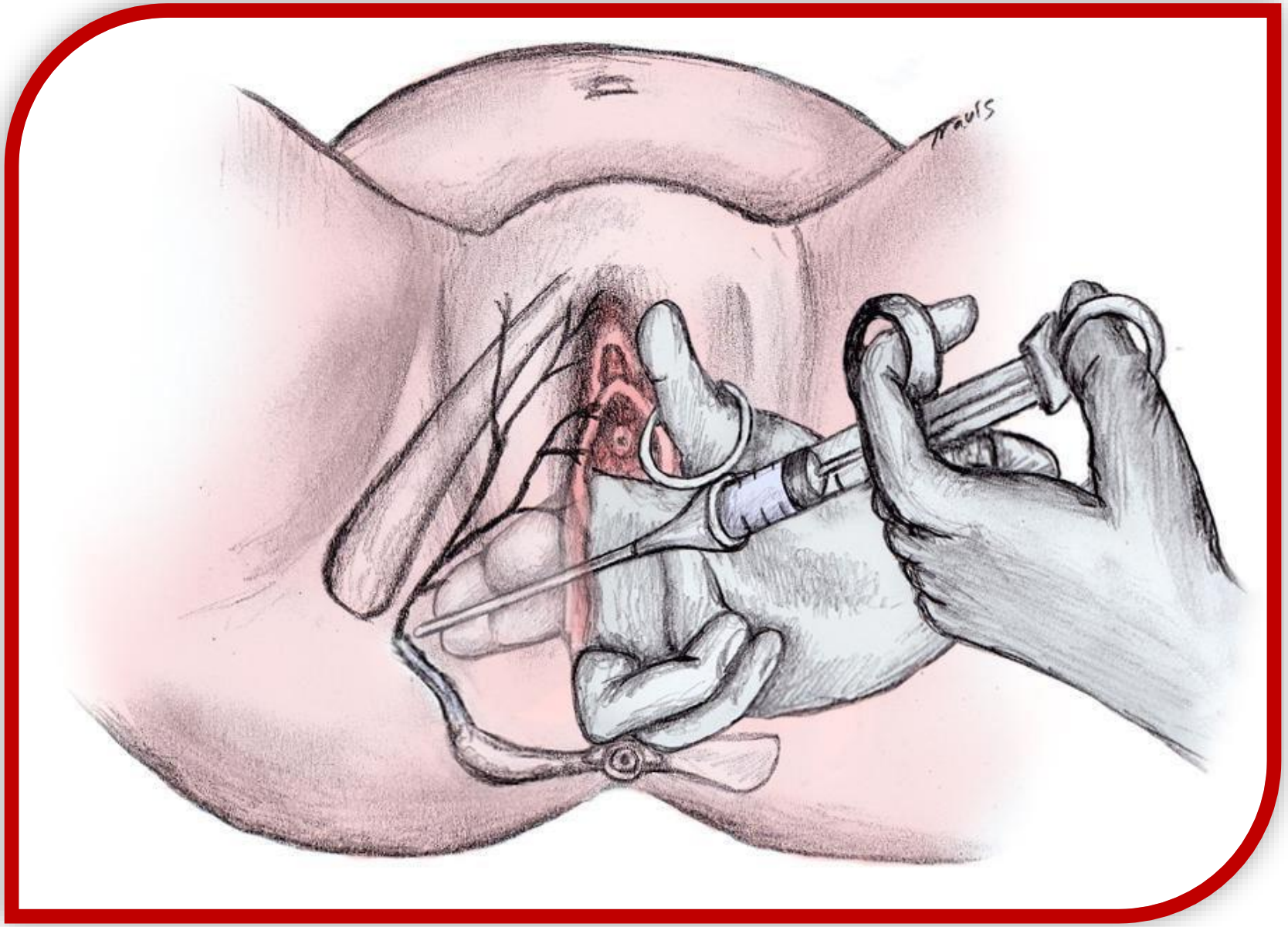
# LO 6
# Spinal anaesthesia

- **A spinal block is considered more effective than that obtained by an epidural, and is of faster onset. A fine-gauge atraumatic spinal needle is passed through the epidural space, through the dura and into the subarachnoid space, which contains the CSF A small volume of local anesthetic is injected, after which the spinal needle is withdrawn.**

- **This may be used as anesthesia for caesarean sections, trial of instrumental deliveries (in theatre), manual removal of retained placenta and the repair of difficult perineal and vaginal tears Spinals are not used for routine analgesia in labour.**

- **Combined spinal–epidural (CSE) analgesia has gained in popularity. This technique has the advantage of producing a rapid onset of pain relief and the provision of prolonged analgesia**

# Technique of pudendal block



# LO 7
# Anasthesia for c.s

**Epidural & spinal anasthesia is the method of choice for both elective &emergency c.s , about 80% of c.s is epidural.**

## ❖ Advantage of epidural versus G.A:__

1. **Increase maternal safety.**
2. **Improve fetal outcome if maternal hypotension is avoided.**
3. **Improve maternal psychological state & maternal infant bonding**
4. **Improve maternal cardiovascular stability in severe PE.**
5. **Reduce post operative morbidity & analgesic requirement.**
6. **Less PPH.**
7. **Decrease risk of pulmonary embolism.**

# Disadvantage of G.A

- **Difficulty of endotracheal intubation.**
- **Increase risk of aspiration of gastric content.**
- **Reduction in placental perfusion which occur with diminished maternal C.O.P at injection of anesthetic induction agent.**
- **Change in maternal blood gas that occur with positive pressure ventilation.**

# A specific role for G.A

- **Elective C.S when the mother wish to be unconscious.**
- **Woman with suspected placenta accreta or placenta percreta have relative indication for G.A so that invasive cardiac monitering & preparation for replacement of massive blood loss can be made.**
- **When DIC is present or suspected in case of placental abruption.**
- **Heart disease e.g: pulmonary hypertension , Rt or Lt shunt ,severe aortic stenosis or coaorctation.**
- **Eclampsia or severe PE with thrombocytopenia, coagulopathy, pulmonary oedema or severe liver involvement.**

# THANK YOU