Obstetric analgesia & anesthesia

Objectives of this lecture

-Know source of labor pain. ■

-Features of ideal analgesic drugs. ■

-Types of analgesia , it's indication , side effect, & complications. ■

Analgesia:loss or modulation of pain perception. ■

Anasthesia: 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 sever.

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 contracon the pressure is about 50 mmHg .Most women do not feel pain unl pressure reach 25mmHg

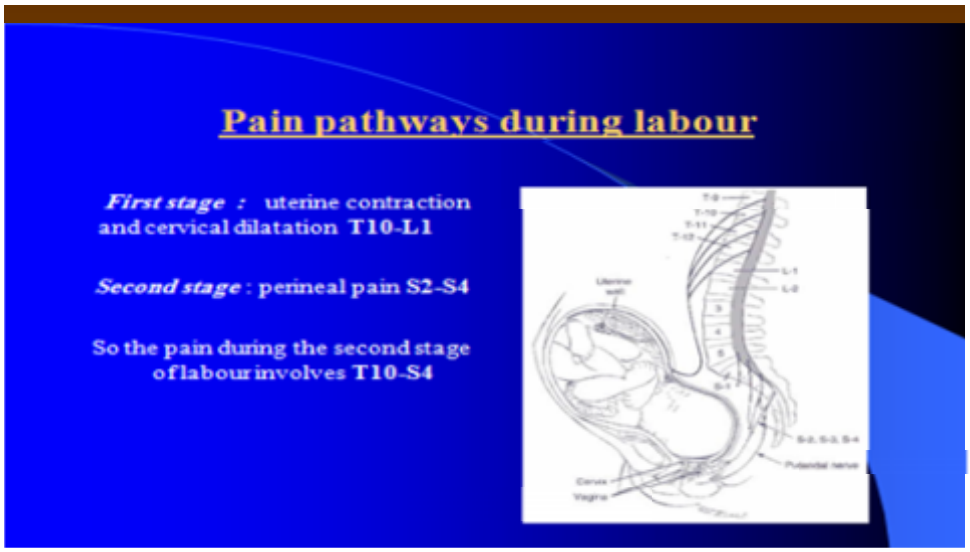
Source of pain

1-Ischaemia 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 centre of the newborn ■

4-Effective. ■

5-Easy to administer. ■

6-Predictable & constant in it's effect

3 methods are in common use in labor

1-Drug in 1st stage of labor ■

2-Inhalaon anal gesi a{ 1 st&2nd stage} ■

3-Epidural analgesia{1st &2nd stage} ■

Analgesic drugs:-

Pethidine: 100-150 mg IM &50 -100 mg can be repeated ae r 2 ■ hours ,it's now in almost universal use ,it is less effective than

morphine in relieving pain ,but has less depressive effect on respiratory centre of the new born.

S\E: nausea & voming treated by metoclopramide 10 mg ■ intramuscular Morphine is seldom used for normal labor but it can be used in dead or crossly abnormal baby e.g: anencephaly,dose:15 mg ,if respiratory depression occurred, Naloxone should be given in to umblical vein -5 micro g\Kg.

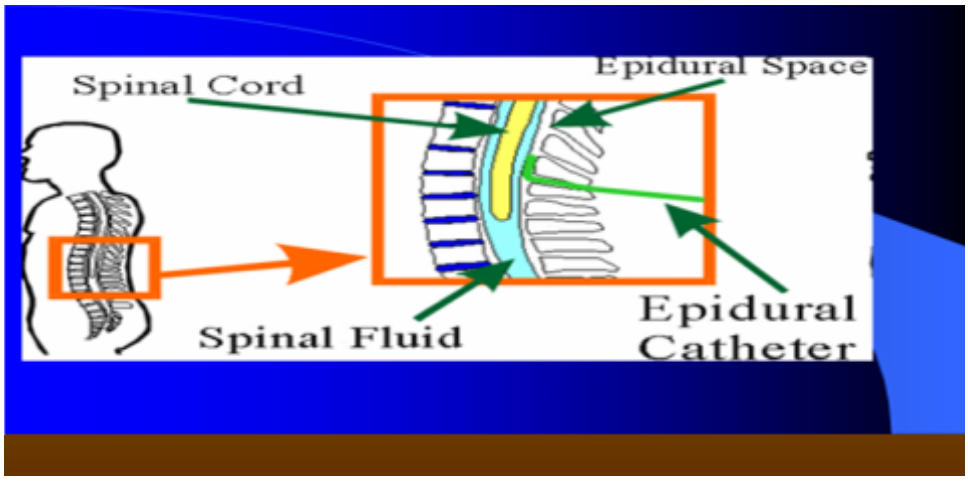
Inhalation analgesia:-

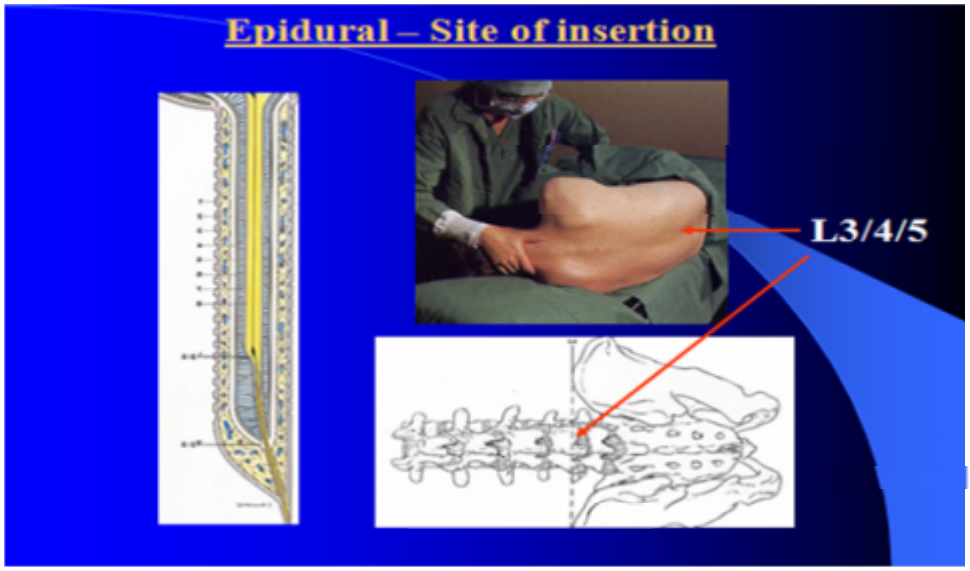
Amixture of NO &O2 can be given in equal proportion in acylinder[Entonox gas cylinder.

Epidural block

Usually started in 1st stage & may be continue through out labor: ■ the drug is injected into the epidural space through a tuohy needle which is inserted between L3,L5. A polythene catheter is threaded through the needle & left in epidural space so that further injection of drug can be given as required.

Drug used:pubivacain 0.25%-o.5% or lignocain 2% ■





Precautions in epidural analgesia

1-Control of B.P. ■

2- I.v line should be established ■

3-Vasopressor e.x: ephedrine ■

4-Barbiturate ;if drug injected I.V leading to C.N.S. stimulation ■

5-O2 should be available

Complications

1-Spinal tap :hypotension ,collapse & respiratory paralysis. ■

2-Hypotension because of : pressure of gravid uterus on inferior vena cava which prevent venous return to the heart, vaso dilatation effect of neural block ■

3-I.v injection of drug. ■

4-Urinary retention ■

5-Haematoma formation. ■

6-Increase pain sensation in perineal wound after labor ■

7-Headache. ■

8-Prolonged 2nd stage of labor ■

Circumstances in which epidural an. Is used

1-Labor complicated by occiput posterior ■

2-Acceleration with oxytocin. ■

3-Pre-eclampsia or severe hypertension. ■

4-Previous C.S. ■

5-Breech presentation. ■

Pudendal block

It is a simple method that can be used for analgesia at operative delivery including repair of episiotomy ,forceps or ventouse delivery ,breech & twin delivery. ■

The anesthetic 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 ■

Anesthesia for caeserian section

Epidural & spinal anesthesia 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

1-Difficulty of endotracheal intubation. ■

2-Increase risk of aspiration of gastric content. ■

3-Reduction in placental perfusion which occur with diminished maternal C.O.P at injection of anesthetic induction agent. ■

4-Change in maternal blood gas that occur with positive pressure ventilation

Although the advantage of conduction anesthesia are numerous , there remain a specific role for G.A: ■

1-Elective C.S when the mother wish to be unconscious. ■

2-Woman with suspected placenta accreta or placenta percreta ■ have relative indication for G.A so that invasive cardiac monitoring & preparation for replacement of massive blood loss can be made.

3-When DIC is present or suspected in case of placental abruption. ■

4-Heart disease e.g: pulmonary hypertension , Rt or Lt shunt ■ ,severe aortic stenosis or coaorctation.

5-Eclampsia or severe PE with thrombocytopenia, coagulopathy, ■ pulmonary oedema or severe liver involvement.

REFERENCE :

-OBSTETRIC BY TEN TEACHERS

-DEWHURST,STEXT BOOK OF OBSTETRIC & GYNECOLOGY