

INDUCTION AND AUGMENTATION OF LABOR

Objectives

- ❖ To define induction and augmentation of labor
- ❖ To list indications for induction of labor
- ❖ To list contraindications for induction of labor
- ❖ To outline the steps in induction of labor
- ❖ To discuss about complication of induction and augmentation

Induction & Augmentation

Definition

- **Induction of labor** is initiation of uterine contraction artificially for the purpose of delivering the fetus vaginally after the fetus has reached viability (**after the 28th** week of gestation)
- It can be elective (planned) and emergency.

Cont...

- Augmentation of labor is enhancing uterine contractions that are already begins, but inadequate to facilitate progress of labor.
- Because of **associated risks**, induction & augmentation of labor should be performed only upon specific maternal or fetal indications.

□ Indication for induction

1. post-term pregnancy.
2. Hypertension, including preeclampsia/eclampsia
3. Medical problems like CHF, renal failure,
4. Severe oligohydraminous.
5. Obstetric history, such as previous stillbirth
6. PROM.

Cont...

7. Intrauterine fetal death/IUFD.

8. Intrauterine growth restriction/IUGR

9. Congenital malformation –

- anencephally,
- hydrocephalus,
- spinal bifida

Cont...

❑ **Absolute Contraindications to induction**

1. Transverse lie
2. Placenta praevia
3. Cord presentation or cord prolapse in PROM
4. CPD, previously repaired fistula, multiple px
5. Unfavorable cervix, breech presentation
6. Abnormal fetal heart rate pattern
7. Absence of cesarean section facility
8. Previous history of CS

❑ Indication for augmentation

- i. Delayed second twins
- ii. uterine hypotonic-inadquate
uterine contraction which is less
than 3 in 10min that lasts $< 40\text{sec}$
- iii. prolonged labour

- ❑ Contraindication for augmentation
 - i. fetal distress-why???
 - ii. obstructed labour
 - iii. trial of scar
 - iv. CPD
 - v. breech presentation

Cont...

Bishop score

- ❖ is a method of assessing whether the cervix is favorable for induction of labour /not.
- ❖ The five different features/factors are considered and each is awarded a score of between **0,1,2 or 3**.
- ❖ **What is the importance of Bishop score?**

Bishop score

Factor	0	1	2	3
Dilation (cm)	Closed	1 - 2	3 - 4	>5
Effacement (%)	0 - 30	40 - 50	60 - 70	>80
Station	- 3	-2	-1, 0	+1, +2
Cervical Consistency	Firm	Medium	Soft	-
Position of cervix	Posterior	mid position	anterior	-

Interpretation of the Bishop's score:

1. Score <4: Unfavorable cervix

– is unlikely to yield for induction.

– Cervical ripening is needed for success with induction.

– Postpone induction for next week if possible or

*– **use cervical ripening and plan induction for next day.***

2. Score 5-8: Intermediate

3. Score ≥ 9 : Favorable cervical condition and

*– **induction is likely to succeed.***

– No need for cervical ripening.

– Induction using Oxytocin can be planned for next day.

Example-

**cx dilatation=3cm,
effacement=60-70%,
station=0,
position=anterior,
consistency=soft, then what is the
Bishop score?**

Cont...

Methods of induction of labor

- **Surgical-ARM**
- **Medical**
- **Combined-more effective than the separate to reduce induction failurity**

Cont...

1. Medical

❖ **Oxytocin:-** Administration of oxytocin to induce labour, Local policies and protocols should be followed for the administration of oxytocin.

Cont...

Misoprostol :-

- Use to ripen the cervix only in highly selected situations such as:
- severe preeclampsia or eclampsia; IUFD, post-term pregnancy.....
- **25-50 mcg** in the posterior fornix of the vagina based on parity of the mother. Repeat **after 6** hours, if required;
- Do not exceed four doses (200 mcg).

Cont...

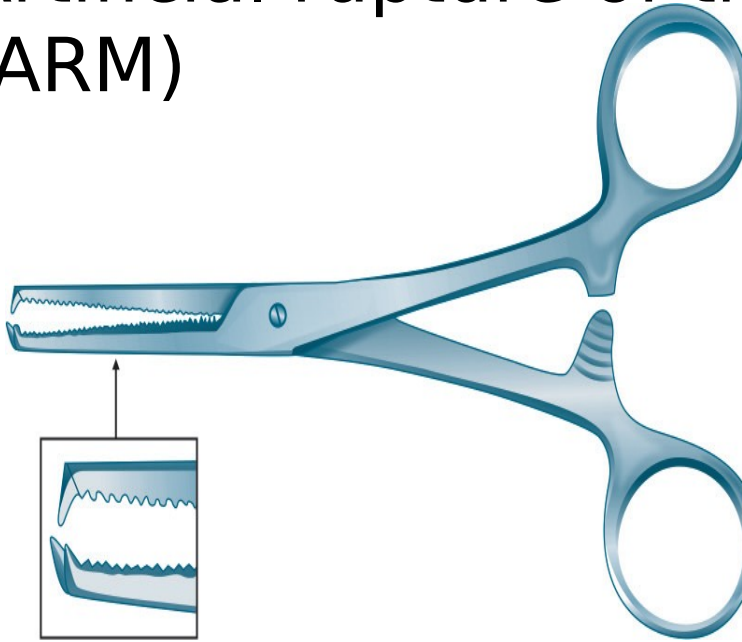
PROSTAGLANDINS

- Prostaglandins are highly effective in ripening the cervix during induction of labour.
- Prostaglandin E2 (PGE2) is available in several forms (**3 mg pessary** or 2-3 mg gel).
- The prostaglandin is placed high in the posterior fornix of the vagina and may be repeated after 6 hours if required.

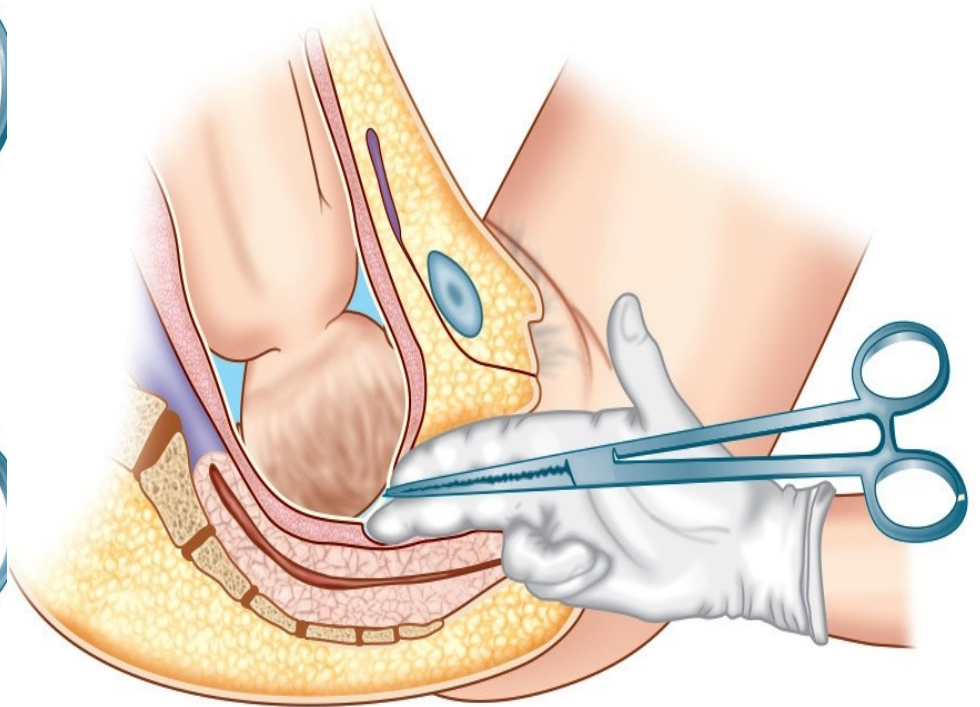
Cont...

2. Surgical method

Artificial rupture of the membranes
(ARM)



(A) Kocher's artery forceps.



Cont...

❑ **ARM**:-causes release of prostaglandins from Amnion membrane and causes fitting of presenting part on cervix & stimulating more PG release to bring onset of labor.

Hazards of ARM:

- Intrauterine infection
- Cord prolapse
- placental abruption

Cont...

COMBINED METHOD

- ❑ The combined medical and surgical methods are commonly used to increase the efficacy of induction.
- ❑ **It decreases induction failurity**

Cont...

➤ **Intravenous Oxytocin Administration**

➤ Different protocols to administer oxytocin are in

use.

- In our country the low dose regimen is used. add 5 IU (for primigravida) or 2.5 IU (for multiparas) of pitocin in 1000ml of N/s.
- Start with 20 drops/minute and double the drop rate every 30 minutes until 3 - 4 contractions in 10min each lasting 40 - 60 seconds is achieved.

INDUCTION PROTOCOLS

Multipara	Primigravida
A. Start with 2.5 IU oxytocin in 1000 N/S running at 20 drops / min . If no contraction double every 30 minutes. Always stops at 80 drops (20, 40, 60, 80).	A. Start with 5 IU Oxytocin in 1000 N/S running at 20 drops per / min. If no contraction double every 30 minutes. Always stop at 80 drops(20,40,60,80)
B. If no contraction add 2.5IU of oxytocin and start with 40 drops (40,60,80)	B. If no contractions add 5 IU of oxytocin and start with 40 Drops(40,60,80)
C. If no contractions add 2.5IU oxytocin and start with 60 drops (60, 80) [Maximum dose 7.5 units].	C. If no contractions add 5 IU of oxytocin and start with 60 drops.(60,80) [Maximum dose 15 units]

Augumentation

Multipara	Primigravida
A. Start with 1.25 IU oxytocin in 1000 N/S running at 20 drops / min . If no contraction double every 30 minutes. Always stops at 80 drops (20, 40, 60, 80).	A. Start with 2.5 IU Oxytocin in 1000 N/S running at 20 drops per / min. If no contraction double every 30 minutes. Always stop at 80 drops(20,40,60,80)
B. If no contraction add 1.25IUof oxytocin and start with 40drops (40,60,80)	B. If no contractions add 2.5 IU of oxytocin and start with 40 Drops(40,60,80)
C. If no contractions add 1.25IU oxytocin and start with 60 drops (60, 80) [Maximum dose3.75units].	C. If no contractions add 2.5 IU of oxytocin and start with 60 drops.(60,80) [Maximum dose7.5 units]

Failed induction

Definition:

- Failed induction is failure to initiate good uterine contraction.
- It is diagnosed if;
 - ***adequate uterine contractions are not achieved after 6 to 8 hours of oxytocin administration and***
 - ***use of the maximum dose for at least one hour.***

Cont...

Complications of induction and Augmentation

- Failure of induction ending in C/S.
- fetal distress.
- Uterine rupture
- Sudden gush of fluid can cause placental separation or cord prolapse.
- PPH from exhaustion of uterine muscles