SBV AHEAD

CONTEMPORARY NURSING APPROACHES IN INDUCTION OF LABOUR

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Abstract

Labour induction involves the stimulation of uterine contractions to produce delivery before the onset of spontaneous labour. This procedure has been commonly used since the synthesis of oxytocin (Pitocin) in the 1950s; labour is currently induced in about 13 percent of live births in the United States. Most labour inductions are for postdate pregnancy which occurs in about 10 percent of live births. Intrapartum nurses bear significant responsibility for assessing, supporting, documenting, and verbally communicating labour progress to birth attendants, families, and the women themselves. Contemporary research allows for a wider range of normal labour progress than in the past. Reduction in the rate of primary cesareans is needed to improve maternal and neonatal outcomes. Application of the contemporary evidence on induction of labour is an important aspect of the challenge being faced, to translate the evidence into practice.

Key words: Induction, Intrapartum, Contemporary, Maternal outcome.

Introduction:

Induction of labour is the artificial initiation of labour before its spontaneous onset to deliver the feto-placental unit[9]. The frequency of induction varies by location and institution. The rate of induction in Canada has increased steadily from 12.9% in 1991–1992 to 19.7% in 1999–2000. The rate reached a high of 23.7% in 2001–2002, decreased slightly to 21.8% in 2004–2005, and has since remained steady. When undertaken for appropriate reasons, and by appropriate methods, induction is useful and benefits both mothers and newborns[22]. The goal of induction is to achieve a successful vaginal delivery that is as natural as possible. Women who are having or being offered induction of labour should have the opportunity to make informed choices about their care and treatment in partnership with their health care provider[10].

Indications:

- Postdate pregnancy[9]
- Premature rupture of the membranes
- Pregnancy-induced hypertension or preeclampsia[24]
- Chorioamnionitis[11,13]
- Severe intrauterine fetal growth retardation
- Significant maternal medical problems, such as diabetes mellitus with pregnancy at term[2]

Contraindication

- Prolapsed umbilical cord.
- Prior classic uterine incision.
- Pelvic structural Abnormality.
- Active genital herpes infection
- Contracted pelvis[12,14]
- Abnormal fetal heart rate.
- Multifetal gestation.
- Placenta previa & vasaprevia
- Malpresentation.

Pre induction assessment:

The goal of labour induction is to achieve a successful vaginal delivery, although induction exposes women to a higher risk of a Caesarean section than spontaneous labour. Before induction,

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there are several clinical elements that need to be considered to estimate the success of induction and minimize the risk of Caesarean Section[21]. Factors that have been shown to influence success rates of induction include the Bishop score, parity (prior vaginal delivery), BMI, maternal age, estimated fetal weight, and diabetes. The Bishop score was modified in 1974 as a predictor of success for an elective induction. The initial scoring system used 5 determinants (dilatation, length, station, position, and consistency) that attributed a value of 0 to 2 or 3 points each (for a maximum score of 13). Bishop showed that women with a score of > 9 were equally likely to deliver vaginally whether induced or allowed to labour spontaneously. Favourable Pre induction Bishop score of > 6 is predictive of a successful vaginal delivery . Assessment of cervical status is fundamental for the clinician to estimate the likelihood of a successful vaginal delivery. Of the Bishop score criteria for predicting successful induction, the most important is cervical dilatation, followed by effacement, station, and position, with the least important being consistency. The rate of failed induction is higher for women with a very low Bishop score (0 to 3) in both nulliparous and parous women[15,16].

Modified Bishop Score[11,12]:

Parameters	0	1	2	3
Cervical dilatation(cm)	<1cm	1-2cm	2-4cm	>4cm
Cervical length(cm)	>4	2-4	1-2	<1
Fetal head station	-3	-2	-1/0	+1/+2
Consistency	Firm	Average	Soft	-
Position	Posterior	Middle or anterior	-	-

Contemporary Approaches in Induction of Labour:

There are a number of 'alternative' or 'natural' induction methods available here. Trying to force the mother/baby to do something it is not ready to do is an intervention whether it is with medicine, herbs, therapies, techniques… or anything else. Interventions of any kind can have unwanted effects and consequences. However, 'interventions' (massage, acupuncture, etc.) that are aimed at relaxing the mother and fostering trust, patience and acceptance may assist the mother/baby to initiate labour if the physiological changes have already taken place[3,20]. Numerous nonmedical methods for cervical ripening and labor induction have been employed. Although popular with midwives, most are not routinely used by obstetricians[23].

1.Exercise: Walking, of all other physical activities, can help to induce labour naturally. When you walk, be upright so that the head of the baby presses on the pelvic area, precisely on the cervix. This pressure stimulates the release of oxytocin, that helps in progression of labour. Walking can help the baby take the heads-down position to initiate natural birth, due to the effect of gravity[6].

2.Nipple Stimulation: Pulling on the nipples very firmly in a motion intended to simulate a baby's suckling stimulates uterine contractions and has been used to induce labor . It usually works within about 72 hours in women with favorable cervix on Bishop scoring . Breast stimulation causes the uterus to contract, likely through increased levels of the hormone oxytocin, which stimulates contractions. It is typically recommended to be done manually for about 30 minutes at a time on one or both nipples, repeated twice daily. There is little data on safety but it does not appear to be associated with any complications. Safety has not been evaluated in high-risk pregnancies. A plus is that nipple stimulation is associated with reduced postpartum hemorrhage[1]

3.Belly massage: There is a need for an expert to perform this massage to jump-start the process of labour. In India, many massage therapists practice belly massage that could initiate labour naturally,especially if the overdue.Massaging specific points on the belly helps release oxytocin[6,20].

4.Eating tropical fruits: There is a reason why pregnant women are advised against consuming pineapple, mango and papaya during pregnancy. These fruits contain a proteolytic enzyme called bromelain that can bring in labour. However, when one has crossed the expected due date, consuming such fruits makes total sense. The enzyme contained in such fruits helps to soften the cervix and initiate labour. The flipside is that there is no evidence that this process works and is safe for pregnant women. Also, the enzyme content in these fruits is very minimal so you need to consume as many as six to seven of them to initiate labour. The most-likely

side-effect of this overdose could be a severe case of diarrhea[6].

5.Spicy food: It is believed that having spicy foods just before labour can help in dilation, induce uterine contractions and help in smooth, trouble-free labour, however, this traditional belief isn't scientifically proven yet. Gorging on spicy foods during the expected delivery day, when contractions have not set in could possibly irritate the intestine and hence cause the uterus to contract[6].

6.Dance therapy: Belly dance during pregnancy is a good choice. It is a fun exercise for pregnant women and keeps the hormonal and energy levels in check. Practicing some moves can help to induce labour. The reason being, swaying of hips and belly will help the baby turn into the heads-down position and press on the cervix to help it dilate naturally. Avoid any vigorous moves that can harm the baby or lead to fetal distress[6].

7.Herbal tea: Herbs, especially blue cohosh and cotton root bark are popular amongst midwives, including certified nurse midwives, to stimulate labor. They are typically used in the form of alcohol extracts, taken in doses of several milliliters at a time, repeated up to 4 times/day, or more often under skilled guidance. Thus the use of herbs to induce labor should preferably be done under the guidance of a midwife or other reliable health professional skilled in the use botanical medicines in pregnancy[1,3].

Raspberry leaf tea can do wonders during labour. Sipping on raspberry tea during labour can help to dilate the cervix and strengthen the entire pelvic area. It is packed with vital minerals and vitamins and plays a key role in initiating the labour process. It may be taken in a strong tea, prepared using ¼ oz. (about 4 grams) of the dried herb to 1 pint of water, steeped for 20 minutes, and several cupfuls taken daily until labor commences. It is not associated with causing preterm labor and has been associated with decreased complications at birth for the mother and baby[1].

8. Consuming castor oil: Castor oil is considered to be a natural element in inducing labour. Many practitioners also advise pregnant women to consume specific doses of the oil mixed with milk, if she has crossed her due date. How castor oil helps to induce labour is not known completely but the oil acts as a laxative for sure. Apart from that, it can also give rise to symptoms like nausea and vomiting[3,20].

9.Acupressure and Acupuncture: Acupressure is the application of pressure usually using the fingertips, in place of needles, on acupuncture points. Firm pressure is applied for several minutes, repeated several times daily. Acupuncture has been used to ripen the cervix and induce labor. It is a harmless method if clean needles and proper techniques are used[1].

These are alternative therapies that many people resort to, induce labour naturally[6]. In acupressure, specific points in the body are stimulated to initiate uterine contractions, while in acupuncture, needles are inserted on specific points of the body that could initiate labour[3].

10.Massage with primrose oil: Evening Primrose Oil has been used extensively by midwives to "ripen" the cervix when taken in doses of about 1500 mg orally and the oil of several opened gel caps also applied directly to the cervix for up to a week prior to when you hope to go into labour[1].

Massaging the perineum with evening primrose oil can help the cervix to loosen and dilate. However, avoid using this herb and herb extract if pregnancy is considered as a high-risk one[6].

11.Homeopathy: This can pose to be the safest to induce labour naturally. Homeopathy drugs can help to set in uterine contractions when prescribed by a registered homeopath. These drugs usually have no side-effects. However, their efficiency is not proven yet[6,26].

Safe Care Practices for Labour Induction:

Intrapartum nurses bear significant responsibility for assessing, supporting, documenting, and verbally communicating labor progress to birth attendants, families, and the women themselves[5].

- No elective labor inductions before 39 completed weeks of Gestation[7]
- Cervical readiness before labor induction[7].
- Standard oxytocin protocol, including a standard concentration and standard dosing regimen[7].

- In case of uterine hyperstimulation appropriate and timely intervention[6].
- Continuous monitoring of women with partograph[8].
- Check pre induction score.
- Documentation of indications for induction of labour[4].
- Monitor the women with cardiotocography.
- Assessment of the progress of labour[22].
- The nurse should be able to give support and encouragement to the woman to help her cope with the contractions, and appropriate pain relief should be available if it is required[17].
- Good communication between the team members.

Conclusion:

Labor induction appears to be a safe alternative to spontaneous labor. Regardless of the method employed, it is essential that the patient and her obstetrician understand the rationale for inducing labor, the risks of the method chosen, and the options that will be considered in case of failed induction. The goal of labor induction must always be to ensure the best possible outcome for mother and newborn[23]. Practitioners need to apply clinical judgement and evidence-based medicine to justify that induction is superior to continuation of pregnancy. The benefit of induction over the continuation of a pregnancy is not always clear, but there are some tools to evaluate the likelihood of a successful vaginal delivery[24,25]. In particular, perinatal nurses have a wide array of skills useful to laboring women's comfort and coping that can be further developed through maintaining normal physiologic processes without unnecessary technologic interference.

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