

Outcome of Induction of Labour after 37 Weeks of Gestation

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To evaluate the outcome of induction of labour after 37 weeks of gestation. One hundred patients including primipara and multipara were studied over a period of one year. The main indications were postmaturity, pre-eclampsia, diabetes, premature rupture of membranes, chorioamnionitis, congenital anomalies and social reasons. Induction with prostin pessary was carried out in 72% while oxytocin infusion with amniotomy was used in 14%. Vaginal delivery was achieved in 78%, of which 72% were normal vaginal deliveries and 6 % were instrumental deliveries. Caesarean section was carried out in 22% patients. Indications for operative delivery included failed induction in 8 (36%) and foetal distress in eleven (63%). Failed induction was more in patients who required two prostin E2 pessaries for cervical ripening.

Key words: Induction, Labour

Induction of labour is initiation of labour at a predetermined time, with the help of medical or surgical methods of induction. Induction of labour should be considered, when further prolongation of pregnancy might expose foetus / mother or both to risk. The safety and reliability of induction of labour has greatly increased in recent years (Coroner et al).

The indications include hypertensive disorders, intrauterine growth restriction, diabetes mellitus, prolonged pregnancy, gross fetal anomaly, antepartum hemorrhage, intrauterine death and sometimes Rh incompatibility. Objective of the study was to evaluate outcome of induction of labour after 37 completed weeks of gestation.

Patients and Methods

A retrospective study was carried out at the Department of Obstetrics and Gynaecology, Services Hospital, Lahore from December 1997 to December 1998. Study included all booked and non-booked patients with indication for induction after 37 completed weeks of gestation. Exclusion criteria included Induction before 37 weeks of gestation and previous Caesarean section

Detailed history, examination and obstetrical evaluation were carried out. Investigations included blood grouping and Rh factor, haemoglobin percentage, urine analysis and ultrasonography. Other investigations were carried out if required.

Pre-requisites for induction of labour were confirmation of gestational age to avoid iatrogenic prematurity, ensuring pelvic adequacy and assessment of cervical status by Bishop score. Fetal well being was ensured by a reactive non stress test and biophysical profile. The patient was counseled regarding reasons for induction, method of induction and possible outcome.

Cervical ripening if required was carried out at night with prostaglandin E2 vaginal pessary (3mg). Contraindications to prostaglandin E2 vaginal pessary included febrile illness, active asthma, bleeding per vaginum, allergy to prostaglandins and regular uterine contractions. Augmentation if required was started after

six hours. Oxytocin inductions were carried out at 6 a.m. Patients were advised to have light breakfast and thereafter kept empty stomach.

Induction was carried out with 10 units oxytocin/1000 ml of 5% Dextrose in water in primipara, and with 5 U/1000 ml in multipara. Another intravenous line was secured in order to give additional fluid if need be. The infusion was started at a rate of 10 drops/min and drops were increased every 15 minutes, according to uterine response. A partogram was maintained to monitor labour and assess its progress.

Results

The ages ranged between 20-40 years. Fifty four percent were primipara, 36% were multipara and 10% were grand multipara .

Table 1: Indication for Induction of Labour

Indications	n = 100	%age
Post-term	42	42
Pre-eclampsia	30	30
Diabetes	10	10
Premature rupture of membrane	10	10
Chorioamnionitis	4	4
Abnormal baby	2	2
Social reasons	2	2

Two percent induction were carried out for social reasons and 98% were carried out for maternal and foetal reasons.

Table 2: Bishop Scores

Bishop Scores	N = 100
<5	70
5 - 7	6
>7	24

Seventy percent of patients had Bishop score <5, 24% had Bishop score >7 and a bishop score of 6% were between 5-7.

Table 3: Prostaglandin Vs Oxytocin Induction

Bishop Scores	Number	%age
Prostaglandin	82	82
Syntocinon	14	14

Outcome of Induction of Labour

Prostaglandin E2 vaginal pessary induction was carried out in 82% and Oxytocin and amniotomy in 14%. In 75 patients only one pessary was used while in 7 patients, 2 pessaries were required for induction.

Subsequent augmentation with oxytocin was required in 26 patients and rest responded well to amniotomy alone after PGE2 insertion. Reduction in requirement of oxytocin augmentation was observed in patients induced with PGE2.

Outcome of induction was vaginal delivery achieved in 78 patients (78%). (Normal vaginal delivery in 72% of patients and outlet forceps delivery in 6% of patients). Twenty two percent (22%) had caesarean section. The results are presented in the Table 4.

Table 4: Outcome of Induction

Outcome	Number	%age
Vaginal delivery	78	78
Spontaneous vaginal delivery	72	72
Outlet forceps delivery	6	6
Caesarean section	22	22

Caesarean sections were carried out for failed induction in 8 patients (36%) and for foetal distress in 14 patients (63%).

Failed induction rate was more in-patients (nullipara) who required two prostin E2 pessaries for induction. Hyperstimulation was observed in two percent.

Discussion

Induction of labour is one of the most frequently employed intervention in obstetric practice. Despite this, controversy still exists over its role in many clinical situations.

A liberal induction policy leads to an increase in operative deliveries creating potential risks both for the mother and child and at a greater expense. In this study the patients were of reproductive age group and of a low socioeconomic class, most of them were not booked. Indications for induction were mainly post-term pregnancy 42%, pre-eclampsia 30%, diabetes 10%, chorioamnionitis 4%, premature rupture of membranes for more than 24 hours 10% and abnormal foetus in 2%. Only two percent of inductions were carried out for social causes, the reason for this maybe lack of awareness and inadequate information regarding elective induction.

Perinatal morbidity is ten times increased after forty two weeks of gestation. A policy of managing postterm pregnancy through induction of labour results in favourable pregnancy outcome and that too at a lower cost than in the monitoring strategy (Hewson et al., Canadian multicentre postterm pregnancy trial) P prostaglandin E2 vaginal pessary induction was carried out in 82 percent of patients while oxytocin induction was required in 14 percent of patients depending upon Bishop scoring. Subsequent reduction in requirement of oxytocin augmentation was observed in patients initially induced with prostin.

In the study group 78% delivered vaginally and 22% had operative delivery. Indications for caesarean section

were foetal distress in fourteen and failed induction eight. The indications for caesarean section are different in the study conducted here because most patients here don't have any antenatal checkup, therefore, pregnancy complications were detected late (Gudex G et al). The other reason for caesarean section was failure of induction, and the main contributing factor to this was lack of availability of prostaglandin gel.

Conclusion

In this study the caesarean section rate in patients who are induced is 22% is rather high compared to U.K. where it is 12%. The high caesarean section rate is because of two reasons. One is lack of availability of prostaglandin gel and second is emergency inductions which were carried out on patients who presented for the first time in labour room, without having regular antenatal checkup. Induction of labour is definitely required in certain conditions, but is associated with increased risk of operative delivery.

The incidence of caesarean section and related morbidity both to the foetus and to the mother can be reduced in well selected cases, therefore patients should be carefully evaluated before selection for induction of labour.

References

1. O'Connor RA. Induction of labour not how but why. *Brit J Hosp Med* 1995; 52: 554-63.
2. Orhue. Induction of labour at term in primigravida with low Bishop score, a comparison of three methods. *Eur J Obst & Gynae* 1995; 58: 119-25.
3. Ratnan. Oxytocin titration for induction of labour. *Brit Med J* 1991; 31: 134-7.
4. Shoaib Farkanda. Cervical ripening by prostaglandins. *Specialist* 1995;
5. Turner MJ, Fox R. Induction of labour post date in primipara using vaginal prostaglandin tablets. *Int J Med Sci* 1990; 159: 6-9.
6. Walkinshaw SA. Management of post term pregnancy, to induce or not. *British Journal of Obst and Gynae* 1994; 218-21.
7. Bellshill. Induction of labour confers benefits in prolonged pregnancy. *Maternity Hospital, Lanarkshire*, 1994.
8. Bigrigg A, Ress A. Induction of labour in the presence of rupture of membrane with prostaglandin E2 gel. *Clin Exp Obst. Gynae* 1991; 18: 197-8.
9. Cardozo L. Is routine induction of labour at term ever justified. *BMJ* 1993; 306: 840-1.
10. Ekblud U, Pirhonen J. Comparison of intravaginal and two intracervical prostaglandin E2 gels in pre-induction of labour. *BMJ* 1994; 208: 67-7.
11. Franklin O, Matiluko. Cervical ripening and induction of labour by breast stimulation. *Aft J. Med Sci* 1993; 22: 81-5.
12. Goevee R. Hewson. Cost effectiveness of induction of labour versus serial antenatal monitoring in the Canadian Multicenter post term pregnancy trial. *Can Med J* 1995; 152: 1445-50.
13. Grant M. Sweeping of membranes is an effective method of induction of labour in prolonged pregnancies. *British Medical Journal* 1992; 99: 455-8.
14. Gudex G. Induction of labour with PGE2: a prospective audit. *Brit*

- Med J 1993; 106: 78-80.
15. Jarvelin MR. Labour induction policy in hospitals of different levels of specialization. *Brit J Med* 1993; 100: 310-5.
 16. Kurup A, Ratnam SS. Induction of labour in a nulliparam with poor Bishop scope. *Aust N Z J Obs & Gynae* 1991; 31: 223-6.
 17. Mackenzie LZ. The unripe cervix and its management for labour induction. *Eur J Obs & Gynae* 1993; 22: 151-7.
 18. Mahmood TA, Rayner A. A randomized prospective trial comparing single dose prostaglandin E2 vaginal gel with forewater amniotomy for induction of labour. *Eur J Obs & Gynae* 1995; 58: 111-7.
 19. Natu-Mehta. Evaluation of two methods employed for cervical ripening i.e. breast stimulation and oxytocin. 1992;