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# Comparative Analysis of Elective Induction of Labour and Spontaneous Labour for Maternal and Neonatal Outcome

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***Abstract***
***Background*** *- This prospective study is to assess maternal and neonatal outcomes after elective induction of labour and to do a comparative study for similar parameters in patients with spontaneous labour.*
***Materials and Methods*** *- Prospective analytic study comparing 400 low risk electively induced patients at 38 to 41 weeks of gestation with 400 matched controls who laboured spontaneously at term in 2 years from January 2013 to January 2015 at Nalanda Medical College and hospital, Patna, Bihar.*
*Study group consisted of consented patients who had to undergo induction at 38 to 41 weeks of gestation for specific reasons like pshycosocial reasons, suspected macrosomia, perception of decreased foetal movement with reactive NST, clinically suspected decreased liquor.*
***Results*** *– maternal and foetal outcomes were almost similar in both the groups with slightly increased rate of cesarean section in induced nulliparas.*
***Conclusion*** *– Elective induction does not appear to pose an increased risk to mother and her foetus.*
***Keywords*** *– elective induction, nulliparous, multiparous, cesarean sectiion*

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## I. Introduction

Initiation of labor at term without a medical or obstetric indication is called Elective induction of labor. In the recent years its incidence is on the rise due to greater demand by mothers and due to some social factors like distance of home from hospital, history of precipitate labour, previous postdated pregnancy or previous still births. These days many couples with both partners working prefer single pregnancy and don't want to take any risk about it. They have to manage every thing home, office , job for delivery and thereafter. in addition it is of great help to obstetrician in planning delivery and Because of increasing risk of medicolegal issues doctors also don't want to take any risk. Elective induction of labor is planned to favour day time delivery with better availability of staffs and other specialities lile anaesthetist, paediatrician , surgeon if needed. It also avoids sudden IUD of unknown cause . But as of like other procedures labour induction has also some risks like failure to achieve labour, uterine hyperstimulation with foetal compromise and so instrumental or cesarean deliveries, greater need of epidural analgesia, increase incidence of PPH and need for blood transfusion. In addition neonates sometimes require interventional care and NICU admission.

## II. Material and Methods

A prospective comparative study was done in the department of Obs and Gynae, NMCH, Patna, Bihar from January 2013 to January 2015.
**Study design:** prospective comparative study
**Study location**: This was a tertiary care teaching hospital based study done in department of Obs and Gynae, NMCH, Patna, Bihar, India .
**Study duration**: January 2013 to January 2015
Case group consists of 400 patients willing to undergo elective induction at 38 to 41 weeks of gestation with some specific indication .
Control group consists of 400 patients who labored spontaneously during same time period of study. A written consent was taken from all pts who were included in the study
**Inclusion criteria** – psychosocial reasons, patients complaining of decreased foetal movement with reactive NST, clinically suspected decreased amniotic fluid but AFI > 6 , suspected macrosomia but USG documented estimated foetal weight < 4 kg.
**Exclusion criteria -** high risk pregnancies , malpresentations, previous cesarean sections
**Procedure methodology**

Induction in this study starts at 8pm with cerviprim jel, 3 doses given at an interval of 6 hours,
8 pm – 2 am -8 am followed by oxytocin infusion if needed. Outcome was noted in terms of mode of delivery – vaginal, instrumental or cesarean section, maternal and neonatal outcomes in terms of PPH, meconeum stained liquor, foetal disress with non reactive CTG and NICU admission.

## III. Results

**Table no 1**

| Cause of induction | In nulliparous pts | In multiparous pts |
|---|---|---|
| 1.psychosocial | 10 | 13 |
| 2.decreased foetal movement With reactive NST | 70 | 57 |
| 3.clinically suspected decreased AFI | 66 | 58 |
| 4.impending post dated pregnancy | 34 | 42 |
| 5.suspected macrosomia | 20 | 30 |

**Table 2**

| Parameters | Induced group | Spontaneous group | Significance |
|---|---|---|---|
| Nulliparas | | | |
| No.of cases | 200 | 200 | |
| Vaginal delivery | 137 ( 68.5 % ) | 154 ( 77 % ) | P=0.319, $\chi^2$ =0.931 |
| Instrumental delivery | 5 ( 2.5 % ) | 5 (2.5 % ) | P=1, $\chi^2$ =0 |
| Cesarean section | 58 ( 29 % ) | 41 (20.5 % ) | P=0.0875, $\chi^2$ =2.9192 |
| | | | |
| Multiparas | | | |
| No. of cases | 200 | 200 | |
| Vaginal delivery | 156 (78 % ) | 167 (83.5 % ) | P=0.5405, $\chi^2$ =0.3746 |
| Instrumental delivery | 10 ( 5 % ) | 2 (1 % ) | P=0.0209, $\chi^2$ =5.3333 |
| Cesarean section | 34 ( 17 % ) | 31 (15.5 % ) | P=0.7098, $\chi^2$ =0.1385 |
| | | | |

**Table no. 3 - Induction Group**

| Parity | Induction group Bishop score <5 N = | Induction group Bishop score > 5 N = | Significance |
|---|---|---|---|
| Nulliparas | | | |
| No of cases | 125 | 75 | |
| No. & percentage of CS | 40 (32 % ) | 18 ( 24 % ) | P=0.0039, $\chi^2$ =8.3448 |
| Multipara | | | |
| No of cases | 80 | 120 | |
| No. & percentage of CS | 16 ( 20 % ) | 18 ( 15 % ) | P=0.7316, $\chi^2$ =0.1176 |
| Total no. of CS & percentage | 56 ( 27.31 % ) | 36 (18.46 % ) | P=0.0371, $\chi^2$ =4.3478 |

**Table no. -. Complications**

| Parameters | Induction group (n=400) | Spontaneous group (n=400) | Significance |
|---|---|---|---|
| MSL | 28 | 30 | P=0.7928, $\chi^2$ =0.0690 |
| Foetal distress with NRCTG | 40 | 9 | P<0.0001, $\chi^2$ = 19.6122 |
| NICU admission | 23 | 21 | P= 0.7630, $\chi^2$ =0.0909 |
| PPH | 14 | 30 | P= 0.0159, $\chi^2$ = 5.8182 |

**Results**

Causes of induction in both the nulliparaous and multiparous groups are shown in the table no.1. Most common cause in nulliparous group was decreased foetal movement with reactive NST ( N = 70 ) followed by clinically suspected decreased AFI ( n=66 ) . In the multiparous group, most common cause was clinically suspected decreased AFI followed by decreased foetal movement. In the induced group 200 patients were nulliparous and the remaining 200 were multiparous. Out of 200 nulliparous , 137 patients achieve vaginal delivery (68.5 % ) in the induced group while 154 patients in the spontaneous group achieved vaginal delivery (77 % ). 5 patients in nuliparous induced group had instrumental delivery (2.5% ) and 58 pts had LSCS (29% ).

Comparing the multiparous patients in induced and spontaneous group, in the induced group 156 patients had vaginal delivery (78%), 10 patients had instrumental delivery (5%) , and 34 patients had LSCS (17%) . in the spontaneous group 16 had vaginal delivery (23.5%), 2 had instrumental delivery (1%) and 31 had LSCS (15.5%).

The percentage of LSCS in nulliparous induced group with Bishop score <5 was 32% (n =40) whereas 24% patients with Bishop score > 5 (n=18) which was significant (p=0.0039).

The percentage of LSCS in induced multiparous patients with Bishop score <5 was 20% (n = 16) and in same group with Bishop score >5 was 15 % (n=18) which was not significant (p=0.7316)

Incidence of LSCS in induced nulliparous (n=58, 29%) verses spontaneous group (n=41,20.5%) was significant (p=0.0875). The incidence of instrumental delivery when comparing induced multipara (n=10, 5% ) with spontaneous multiparous group (n=2 , 1% ) was significant ( p =0.0209).

The incidence of PPH in the induced group ( n=14) verses that in spontaneous group (n=3 )was significant (p=0.0159 ), meconeum stained liquor was comparable in both groups. Among Neonatal outcomes , foetal distress with non reactive CTG was much higher in induced group (n=40) than in spontaneous group (n=9) thus it was significant (p= 0.0001) . NICU admission was comparable in both groups.

## IV. Conclusion

elec tive induction of labour is suitable option for both the patients and obstetrician. It does not increase incidence of LSCS in carefully selected low risk patients. The study concluded that incidence of LSCS was increased in nulliparous patients with unfavourable cervix (Bishop score < 5 ). Incidence of PPH was also higher in induced group but meconem stained liquor and NICU admission were comparablein both groups.

## References

[1]. Smith LP, Nagourney BA, McLeam FH, et al. Hazards and benefits of elective induction of labour. Am J Obstet Gynecol.1984;148:579-85

[2]. (2)Macer JA, Macer CL, Chan LS. Elective induction versus spontaneous labour: A retrospective of complications and outcome. Am J Obstet Gynecol.1992;166:1690-7

[3]. Prysak M, Castronova FC. Elective induction versus spontaneous labour a case control analysis of safety and efficacy. Obstet and Gynecol.1998;92:47-52

[4]. Maslow AS, Sweeny AMYL. Elective induction of labour as a risk factor foe cesarean delivery.Obstet Gynecol,2000;95:917-22

[5]. Vahrasian A et al.labour progression and risk of cesarean delivery in elective induced nulliparas . Obstet Gynecol 2005;105:698-704

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