Journal of Cardiovascular Disease Research

ISSN: 0975-3583, 0976-2833 VOL15, ISSUE 8, 2024

Type of manuscript: Original article.

SPONTANEOUS VS INDUCED LABOUR OUTCOMES IN A PRIMIGRAVIDA.

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ABSTRACT

BACKGROUND : The recent advances in induction of labour has lead to decreased spontaneous labour and as a result increased complications. Thus a study is done to identify the progress of labour and fetomaternal outcomes in spontaneous versus induced labour patients as childbirth experience especially in primigravida have a major influence in family planning and subsequent pregnancies.

AIM: To study the difference in progress, course and outcome between spontaneous and induced labours in a primigravida.

MATERIALS AND METHODS: This is a prospective study undertaken on 100 Primigravidae of term gestation and uncomplicated pregnancy admitted in the labour room were studied and divided into 2 groups, those with induction of labor and those with spontaneous onset of labor. May 2022 to June 2023 was the time period in consideration.

RESULTS: Among the study population , childbirth experience was poor in those with induced labour. The mean duration of second stage of labour was significantly more in induced labour (16.25 minutes) than in spontaneous labour (14.60 minutes)The caesarean section rates were higher in induced

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labour(33%) than in sponatenous labour(11%). The mean Apgar scores were comparable in two groups.

CONCLUSION : The study shows that it is beneficial to wait for spontaneous onset of labor in a primigravida with no maternal or fetal complications since induction of labor is associated with higher caesarean rates, tears,prolonged labour,poor childbirth experience. It is essential to counsel the mother about the type of delivery.

KEYWORDS: Primigravida,spontaneous labour, induced labour,outcome

INTRODUCTION :

Labour is a process by which fetus , after the period of viability is expelled from the genetic tract.WHO defines normal labour as spontaneous in onset, low risk at start of labour and remaining so throughout labour and delivery. Childbirth is a life-altering experience and is an important milestone in a couple's life. All women through the entire cultural, geographical, and economic spectrum want only one thing – a safe passage to motherhood.

'Induction of labor' is defined as the stimulation of uterus for the initiation of labor before spontaneous onset of labour for the purpose of vaginal delivery[1].Labour induction is one of the common and important practise in Obstetrics. There is an abundant increase in the rates of induction of labor (IOL) worldwide with almost every third labour being induced[2].This could be attributed to the advanced modern obstetrics and healthcare facilities.

The major advantage of IOL is to provide safe confinement where continuing pregnancy has potential risk for the fetus or mother such as post-term pregnancy, premature rupture of membranes,oligohydramnios, meconium stained amniotic fluid,still birth,cord compression,gestational hypertension, gestational diabetes , fetal distress.Maternal distress due to infections, perineal lacerations etc.

On the other hand there are several drawbacks in IOL such as failed induction leading to increased risk of C-section, anxiety, lack of sufficient pain relief, prolonged labour, postpartum hemorrhage, chorioamnionitis ,possible child trauma.Women undergoing IOL are less likely to be satisfied with their care and childbirth experience compared to women with

ISSN: 0975-3583, 0976-2833 VOL15, ISSUE 8, 2024

spontaneous onset of labor[3,4]. Thus efficient monitoring ,health, social and care factors are mandatory for a good and safe childbirth experience [5].

AIM :

To study the spontaneous versus induced labour outcomes in primigravida.

MATERIALS AND METHODS :

The study was conducted in the Department of Obstetrics and Gynecology in Sree Mookambika Institute Of Medical Sciences.

DURATION : May 2022 to June 2023

STUDY DESIGN :

It is a prospective study in which Primigravida who got admitted and delivered during hospital stay either spontaneously or after induction of labour were evaluated and analysed.

A total of 90 participants , admitted at Sree Mookambika Institute of Medical Sciences were included in the study who fulfilled the inclusion criteria. These were further categorized into two group i.e. those with spontaneous labour (44) and those with induced labour (45)

INCLUSION CRITERIA :

1. Primigravida
2. Gestational age >37 weeks
3. Live pregnancy
4. Vertex presentation
5. Spontaneous conception
6. Patients willing to participate in the study.

EXCLUSION CRITERIA :

1. Multigravida
2. Antepartum haemorrhage
3. Abnormal presentation

ISSN: 0975-3583, 0976-2833 VOL15, ISSUE 8, 2024

4. Multiple pregnancies
5. Intrauterine fetal death
6. Bad obstetric history
7. Gestational age <37 weeks and > 41 weeks
8. Pregnancy related complications
9. Medical comorbidities
10. Previous uterine surgeries
11. Congenital malformations
12. Patients not willing to participate in the study.

After obtaining consent from the participants, they were categorised into two groups. Data such as patient details,marietal history, conceptional history, antepartum history, blood investigations, antenatal scans were collected.Patients were then followed up and those who needed induction of labour were kept under group A and those who developed spontaneous onset of labour were kept under group B. Duration of labor, mode of delivery, maternal complications, fetal outcome, perinatal complications, maternal childbirth experience were collected from both the groups and thus compared and analysed.

METHODS OF INDUCTION USED :

- Foleys balloon catheter
- Dinoprostone gel/PGE2 (0.5mg) intracervical (maximum upto 3 doses)
- Foleys followed by Dinoprostone gel/PGE2(0.5mg) intracervical
- Foleys followed by Dinoprostone gel/PGE2(0.5mg) intracervical
- Tab misoprostol 25 microgram per vaginal
- Foleys followed by oxytocin.

The patients were monitored intrapartum, NST done to identify fetal distress ,progress of labour assessed.Those who had complications and had to undergo caesarean section were documented from both the groups.

RESULTS :

Spontaneous onset of labour	43	48%

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Induced labour	47	51%

METHODS OF INDUCTION USED :

Foley's	22	24%
Foley's followed by oxytocin	9	10%
Foleys followed by gel	7	7.7%
Gel	3	3.3%
Oxytocin	5	5%
Misoprostol	1	1%
Total	47	51%

MODE OF DELIVERY :

	Normal vaginal delivery	Instrumental delivery	Caeserean section
Spontaneous labour	36 (79%)	2(8%)	5(13%)
Induced labour	28 (61%)	2(4%)	17(35%)

INDICATIONS FOR CAESAREAN SECTION :

INDICATION	SPONTANEOUS LABOUR	INDUCED LABOUR
Fetal distress	3	4
Secondary arrest of dilatation	2	9
Arrest of head descent	0	2
Meconium stained liquor	0	2
Total	5	17

MATERNAL COMPLICATIONS :

COMPLICATION	SPONTANEOUS LABOUR	INDUCED LABOUR
Atonic PPH	2	6
Vaginal tear/cervical laceration	1	4
Need for additional uterotonics	1	4
Peuperal sepsis	1	1

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No complications	38	32
total	43	47

FETAL COMPLICATIONS :

COMPLICATIONS	SPONTANEOUS LABOUR	INDUCED LABOUR
RDS	1	4
NICU Observation	1	2
SIRS	5	4
Healthy	36	37
Total	43	47

DISCUSSION :

Induction of labour is one of the important clinical practice in modern obstetrics. Present study is a prospective study done on primigravida . This study was taken up to analyze the progress and outcome between spontaneous and induced labour.Group A had patients with spontaneous onset of labour and Group B had patients who had labour induced. Childbirth experience was evaluated in both the groups. In our study both the groups were monitored and outcomes analysed.

Study shows that spontaneous onset of labour patients had higher incidence of normal vaginal delivery whereas induced patients were more prone to instrumental deliveries or caesarean section.The mean duration of normal labour was also prolonged in induced patients.In a previous study conducted by Sagarika and Lakshmi, where the rate of cesarean section was about 31% among the patients with induced labor [6]. In a study conducted by Grivell et al., it was

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concluded that the rate of cesarean section is increased when induction is done for non-recognized indications[7]. A study by Roos et al. also observed that there is a fivefold increased risk of cesarean delivery among nulliparous women[8].The most common indication for caesarean section in our study was fetal distress in patients with spontaneous onset and was secondary arrest of labour in induced group.

Our study also throws light on the maternal and fetal complications which were increased in induced patients. One of the most common complication faced by patients with induced labour was atonic PPH. There was an increased incidence of injury such as vaginal tear or cervical laceration in patients with induced labour .The association of induced labour with increased need of instrumentation could be associated with the injuries.These results were similar to study by Gupta S et al.[9]RDS was the most common fetal complication in induced patients whereas SIRS was found higher in spontaneous patients.

Childbirth experience was majorly effected by instrumentation , caesarean section, maternal complications such as PPH.However primiparity could also have been one of the factors effecting childbirth experience. Consistent with the results of our study induced patients had poor childbirth experience as compared to the patients with spontaneous labour.These results were similar to those in the study by Henderson. [10]

CONCLUSION :

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In conclusion , induction of labour had more complications and eventually poor childbirth experience than compared to those with spontaneous onset of labour. These results emphasise the need for additional support, care and counselling to the patients as childbirth experience can later effect her mental health and family planning. Effiecent counselling of the possible outcomes and choice of induction should be given to the patients if there is no adequate indication. Thus the study concludes that induction of labour done for the right patient with correct indication at right gestational age can be beneficial in terms of reducing risk of complications caused due to the highrisk pregnancies, whereas without correct indication to wait for spontaneous onset of labour is always recommended.

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