

Comparison of Labor Progress and Delivery Outcome among Spontaneously Induced Patients

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Abstract

Background: The signs for inducing labour have virtually remained the same. Primary indications for induction include active medical conditions, being past the due date, and extended ruptured membranes when there is a need to protect the mother's health. Additionally, when the foetus is in danger, indication is justified.

Methods: At the district hospital in Katihar, Bihar, India, 300 pregnant women were randomly chosen from the outpatient department over the course of a year for a prospective research. There were two groups in the study group.

Results: A total of 300 patients were enrolled in the trial throughout the study period. 150 patients underwent induced labour, and 150 patients experienced spontaneous labour.

Conclusion: We come to the conclusion that spontaneous pregnancies are more economical than artificial pregnancies.

Keywords: WHO Partograph, Primigravida, Multigravida, Induction, Spontaneous, Caesarean Section

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Introduction

One of the most frequent procedures during pregnancy is labour induction. The National Centre for Health Statistics' data show that over the past ten years, the rate of labour induction has gradually climbed from 9 to 20 percent. Both community hospitals and university-affiliated tertiary care facilities have noticed this trend. The reasons behind this increase in the induction rate are intricate and multifaceted. The most frequent explanation is better birth planning on the part of the doctor, patient, and her family. Other causes include the accessibility of FDA-approved cervical ripeners, more relaxed views regarding elective or

marginal inductions, and legal restraints. [1]

Recognizing that induction is linked to higher complications when compared to spontaneous labour is another general idea. Increased Caesarean deliveries and chorioamnionitis are complications. [2,3]

Increased rates of Caesarean deliveries during induction may be caused by the uterus not being properly prepared for labour and the doctor's preferences for the length of the induction effort, particularly when the cervix is not yet mature. According to the practise bulletin "Induction of Labor" from the American College of Obstetricians and

Gynecologists, "Generally, induction of labour has validity as a therapeutic option when the advantages of a quick delivery outweigh the hazards of extending pregnancy. The advantages of inducing labour must be evaluated against any possible hazards to the mother or the foetus. [4]

Studying labour progression, mother and foetal outcomes of both spontaneous and induction labour and comparing them is necessary because induction has both benefits and drawbacks. The comparison of labor's progression and outcome between spontaneous and induced labour is the main goal of this study. [5]

Many societies, from the earliest to the most advanced, have been interested in the capacity to induce. The two primary categories of labour induction techniques are mechanical and chemical. In both of these fields, a variety of regimens have been created over time. Little is known about ancient obstetrics. Men left the representations of prehistoric life that archaeologists have found in objects or in cave paintings. But because the birthing area was frequently off-limits to men, it remained a mystery to them.

Methods

The study was conducted in the department of Gynaecology, Katihar Medical College and Hospital, Katihar for six months.

Study Population

There were two groups in the study group. Both spontaneously labouring pregnant women at term who were admitted to Katihar Medical College and Hospital and pregnant women who were admitted for labour induction for either medical or obstetric reasons made up these groups.

Comparative study comparing women going into labour naturally with those who were PGE1 and PGE2 gel-induced.

In prenatal patients with spontaneous commencement of labour, a basic risk factor assessment is performed, and if the patient is in an uncomplicated term gestation, she is enrolled in the study. Women who were at least 37 weeks along with having a singleton pregnancy in vertex presentation and a reactive foetal heart rate pattern were included in the study group.

Women who needed an emergency delivery and were in pre-term labour with significant obstetric and medical complications were excluded. A thorough prenatal history is taken, followed by a basic pelvic examination and an evaluation of the reactive FHR pattern. A modified WHO partograph is used to track the progress of labour. The partograph is used to determine whether additional labour acceleration is necessary.

Spontaneous Labor

Contraction starts on their own when labour starts spontaneously or organically. The contractions during a spontaneous labour progress and get stronger at their own pace. The answer to how labour begins is still up for debate.

Induction of Labour

After foetal viability, the term "induction of labour" refers to the beginning of uterine contractions with the intention of giving birth vaginally.

Duration

These two groups' latent and active phases' lengths were compared, and the difference between the two was examined.

Results

A total of 300 patients were enrolled in the trial throughout the study period. 150 patients underwent induced labour, and 150 patients experienced spontaneous labour.

Table 1: Age distribution of patients

Mode of Onset	Parity	N	Mean	Std. Deviation	Minimum	Maximum
Induction Labour	Primi	110	24.49	3.929	17	36
	Multi	40	24.09	3.613	20	32
	Total	150	24.40	3.839	17	36
Spontaneous Labour	Primi	100	24.41	4.131	16	37
	Multi	50	25.49	3.053	20	34
	Total	150	24.77	3.829	16	37
Total	Primi	210	24.45	4.019	16	37
	Multi	90	24.89	3.370	20	34
	Total	300	24.59	3.835	16	35

Table 2: Gestational Age in weeks

Mode of onset	Parity	N	Mean	Std. Deviation	Minimum	Maximum
Induction labour	Primi	110	38.86	1.22	36.3	42.1
	Multi	40	39.45	.97	37.1	42.4
	Total	150	39.02	1.18	36.3	42.4
Spontaneous labour	Primi	100	38.56	.90	36.1	40.3
	Multi	50	38.71	.93	36.2	40.3
	Total	150	38.62	.91	36.1	40.3

According to Tables 1 and 2, there is no discernible difference in age between patients who have spontaneous labour and those who are induced. The age falls into the same general category.

Discussion

When the health of the mother, the unborn child, or both will be improved by delivery of the pregnancy, labour is induced. A caesarean section delivery is preferred for the safety and well-being of the mother and/or the foetus in circumstances where labour is induced. When the advantages of initiating labour outweigh those of maintaining the pregnancy, the induction is justified. Recognizing that labour inducement is linked to more problems than naturally occurring labour is a broad idea. The need for our study is based on this idea. Women in our study were at comparatively low risk. [6,7]

There are 300 individuals in this prospective research. 150 women who spontaneously gave birth and 150 women who were given prostaglandin E2 gel as an inducer. Statistics were used to analyse the patient characteristics such as maternal

age, gestational age, parity, method of delivery, requirement for oxytocin augmentation, length of first stage of labour, and perinatal outcome. [8]

Although the difference in maternal age between the two groups was statistically significant, it is unlikely that the patient's age difference of a few months would have an impact on the outcome of the pregnancy. In the spontaneous group, the mean maternal age was 24.7, while it was 24.3 in the induced group. This agrees well with research done by Johnson et al. [9].

Our findings that there is a little increase in caesarean deliveries among women who had had induced labour are in line with those of Heffner et al. He did note that the rate of caesarean deliveries was 24.7 percent in the group of induced nulliparas and 13.7 percent in the group of spontaneous labour. The caesarean rate among multiparas was 4.5 percent in induced women and 2.4 percent in the group experiencing spontaneous labour. Failure to induce is a common reason for induced patients to undergo caesarean delivery. the group of spontaneous

labourers experienced foetal discomfort. This implies that the induction does not greatly increase foetal suffering. This is comparable to the study by Johnson et al. [9], in which foetal distress was the second-most frequent indicator after failure to advance.

When compared to induced labour, the active phase lasts less time in patients with spontaneous labour. Due to two patients who experienced abnormally prolonged labour, one of whom required emergency LSCS due to a deep transverse arrest, and the other who experienced a vacuum as a result of the failure of secondary maternal effort, the mean difference in multi among induced patients is higher in the 3cm dilatation group when compared to the spontaneous group. With those two patients excluded, the mean difference between the two groups was more or less comparable.

In contrast to James et al study, 's which found no discernible difference between the two groups, the third-stage consequence, such as postpartum haemorrhage, was more common in the induced group than in the spontaneous group. The prevalence of the well-known maternal problems associated with inducing labour, such as fever, vomiting, and hyperstimulation during labour, was shown to be higher in the groups receiving an induction than in the groups receiving a spontaneous induction. Vomiting was the most frequent side effect of the three issues examined, occurring in 9.3 percent of induced labour patients and 6.6 percent of those who went into spontaneous labour.

When oxytocin was used to speed up spontaneous labour, the percentage of hyper stimulation was 0.2%; for induced labour, it was 3.3%. The women in the spontaneous group did not have any fever. This runs counter to James et al [10] 's study's finding that there was no difference in the incidence of fever between the two groups. [11]

Conclusion

According to the study, patients experience spontaneous labour at a median age of 38 weeks. Compared to spontaneous labour, the latent phase of labour is longer in induced labour. When compared to induced labour, the active phase of labour in patients with spontaneous labour lasted less time. Induced patients experienced a 23.3 percent rise in caesarean sections compared to spontaneous patients' 1.3 percent prevalence. Finally, we draw the conclusion that spontaneous pregnancies are less expensive than induced ones.

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