Original Research Article

Assessment Of Duration Of Second Stage Of Labour and Maternal Outcome: A Teaching Hospital Based Study

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Received: 20-02-2021 / Revised: 23-04-2021 / Accepted: 10-05-2021

Abstract

Background: The conventional 2-hour rule of the second stage of labour dates to the 1800's and is defined as the period between full cervical dilatation of 10 cm and the birth of the baby. The present study was conducted to assess duration of second stage of labour and maternal outcome. **Materials & Methods:** 56 women in labour who reached second stage were included. Education, occupation, marital status and reason for referral was recorded. Maternal outcome of the study was recorded.**Results:** Marital status was single in 8, married in 40 and widowed in 8 cases. Education status was illiterate in 12, primary in 20 and secondary in 24. Occupation was housewife in 25, private job in 18 and labourer in 13 cases. The difference was significant (P< 0.05). The reason for referral was post- term in 7, prolong labour in 3, PROM in 12, hypertension in 8 and better care in 26. Antepartum morbidity was PROM in 8 and HT in 6. Mode of delivery was SVD in 46, CS in 4, vacuum in 4 and forcep in 2 cases. Duration of SSOL (minutes) <30 minutes was seen in 5, <1 hour in 20, <2 hours in 35, <3 bours in 52, <4 hours in 54 and >4 hours in 4 cases. The difference was significant (P< 0.05).**Conclusion:** Premature rupture of membrane and hypertension was found as most common antepartum morbidity.

Keywords: Antepartum morbidity, Marital status, Labour

Introduction

The conventional 2-hour rule of the second stage of labour dates to the 1800's and is defined as the period between full cervical dilatation of 10 cm and the birth of the baby[1].Abnormal labour is more associated with a conundrum of semantic issues implying failure to progress and an abnormally long latent phase or second stage that is described as prolonged deviating from the usual description of normal labour. Although labour is regarded as a physiological phenomenon, there is a tremendous work output, energy expenditure, fluid and electrolyte imbalances and physical exhaustion as well as alterations in the psyche of the parturient[2] More importantly, the extension of time given to the second stage of labour has been shown to increase the overall rate of vaginal births without adversely affecting neonatal morbidity. However, maternal morbidities are increased and include operative vaginal delivery, anal sphincter tears, postpartum hemorrhage and emergency cesarean section[3]. Neonatal mortality and morbidity due to hypoxia and fetal trauma remains to be one of the major issues regarding the cesarean section performed in the second stage of labour. The clinical practice dictates that as the duration of second stage of labour increases, there are likelihoods to encounter increased risk of a multitude of maternal and neonatal morbidity[4].The second stage of labor is regarded as the climax of the birth by the delivering woman, her partner, and the care provider.

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It has been thought of as a time of particular asphyxial risk for the fetus and maternal morbidity[5].The present study was conducted to assess duration of second stage of labour and maternal outcome.

Materials & Methods

The present study was conducted in Dept. of Obstetrics and gynecology Govt. Medical College, Datia. M.P. It comprised of 56 women in labour who reached second stage. All participates were enrolled in the study after obtaining their written consent.

Demographic profile of patients such as name, age etc. was recorded. Education, occupation, marital status and reason for referral was recorded. The duration of second stage of labour was determined based on the number in minutes from the first cervical examination that revealed full dilatation until the time of the delivery. Maternal outcome of the study was recorded. Results thus obtained were subjected to statistical analysis. P value less than 0.05 was considered significant.

Results

Table 1 shows that marital status was single in 8, married in 40 and widowed in 8 cases. Education status was illiterate in12, primary in 20 and secondary in 24. Occupation was housewife in 25, private job in 18 and labourer in 13 cases. The difference was significant (P< 0.05).

Table 1:Assessment of parameters

Parameters	Number	P value
Marital status		
Single	8	0.02
Married	40	
Widowed	8	
Education status		
Illiterate	12	0.05
Primary	20	
Secondary	24	
Occupation		
Housewife	25	0.03
Private job	18	
Labourer	13	

Table 2:Assessment of maternal outcomes

Parameters	Variables	Number	P value
Reason for referral	Post- term	7	0.04
	Prolong labour	3	
	PROM	12	
	Hypertension	8	
	Better care	26	
Antepartum morbidity	PROM	8	0.81
	HT	6	
Mode of delivery	SVD	46	0.01
	CS	4	
	Vacuum	4	
	Forcep	2	
Duration of SSOL (minutes)	<30 minutes	5	0.90
	<1 hour	20	
	<2 hours	35	
	<3 bours	52	
	<4 hours	54	
	>4 hours	4	

Table 2,Fig 1 shows that reason for referral was post- term in 7, prolong labour in 3, PROM in 12, hypertension in 8 and better care in 26. Antepartum morbidity was PROM in 8 and HT in 6. Mode of delivery was SVD in 46, CS in 4, vacuum in 4 and forcep in 2 cases. Duration of SSOL (minutes)<30 minutes was seen in 5,<1 hour in 20, <2 hours in 35,<3bours in 52, <4 hours in 54 and >4 hours in 4 cases. The difference was significant (P< 0.05).

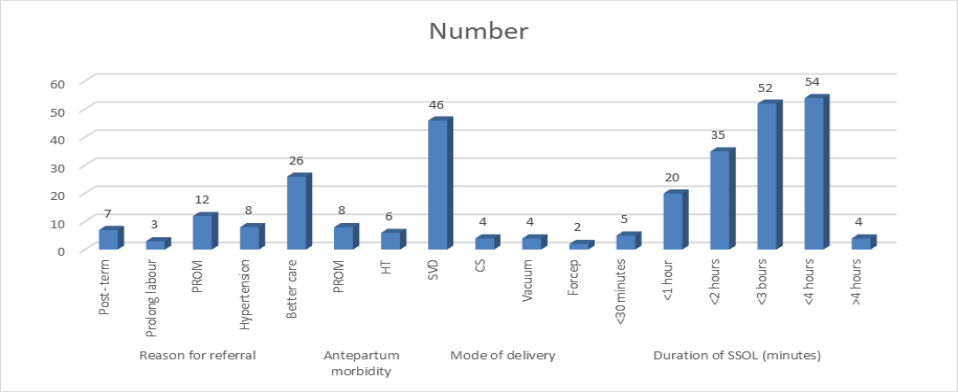

Fig 1:Assessment of maternal outcomes

Discussion

The epidemiology of the length of labour was reported by Friedman over 60 years ago that are very much respectfully and academically accepted to date[6]. These studies changed modern obstetrics; most specifically, they led to specific normative guidelines on the length of the first and second stages of labour[7]. It is very recently that the ACOG had modified and defined prolonged second stage in nulliparous patients as a lack of continuing progress for 3 hours with regional anaesthesia or 2 hours without regional anaesthesia; for multiparous patients, a lack of progress for 2 hours with or 1 hour without regional anaesthesia[8].It is recommended by the WHO that the women should be informed of the reality that the duration of the second stage varies from one woman to another and in that in the first labours, birth is usually completed within 3 hours whereas in

subsequent labours, birth is usually affected within 2 hours[9].The present study was conducted to assess duration of second stage of labour and maternal outcome.In present study, marital status was single in 8, married in 40 and widowed in 8 cases. Education status was illiterate in 12, primary in 20 and secondary in 24. Occupation was housewife in 25, private job in 18 and labourer in 13 cases. Husnia et al[10] included a total of 3776 mothers. The mean age of the participants was 26.4 + 4.5 years. The mean duration of SSOL is 62 min±44 (4-330 min). It significantly dropped with an increasing age of the mothers (500 ml had a statistically significant association with prolonged second stage of labour (P<0.001).We found that reason for referral was post- term in 7, prolong labour in 3, PROM in 12, hypertension in 8 and better care in 26. Antepartum morbidity was PROM in 8 and HT in 6. Mode of delivery was SVD in 46, CS in 4, vacuum in 4 and forcep in 2 cases. Duration of SSOL (minutes) <30 minutes was seen in 5, <1 hour in 20, <2 hours in 35,<3 bours in 52,<4 hours in 54 and >4 hours in 4 cases. Retrospective chart reviews and cohort studies revealed that there exist a possibility of difficult cesarean sections and instrumental vaginal deliveries with resultant maternal morbidities like postpartum haemorrhage, uterine atony, severe obstetric lacerations, chorioamnionitis, puerperal sepsis and third or fourth-degree perineal lacerations with most prolonged second stages of labour[11]. The second stage of labor is regarded as the climax of the birth by the delivering woman, her partner, and the care provider. It has been thought of as a time of particular asphyxial risk for the fetus and maternal morbidity. The perceived risks have been invoked to justify arbitrary time limits and high rates of interferences including operative vaginal and abdominal deliveries. The second stage of labor is often regarded as a time when mother and obstetrician are physically and mentally exhausted and there is a great temptation to "do something" to end the labor[12].The limitation of the study is small sample size.

Conclusion

Premature rupture of membrane and hypertension was found as most common antepartum morbidity.

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Conflict of Interest: Nil
Source of support:Nil