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RESEARCH ARTICLE

RELATION BETWEEN FETAL POSITION AND DURATION OF SECOND STAGE OF LABOUR

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ABSTRACT

Occiput posterior (OP) position is the most common fetal malposition is important as it leads to the prolongation of second stage of labour and hence the adverse outcome. ***Background:*** To evaluate relation between fetal position and duration of second stage of labour as it has an impact on proper patient management. ***Methods:*** After full dilation of cervix position of occiput was noted by doing per vaginal examination after taking proper consent. The time of delivery was recorded and length of second stage was calculated. ***Conclusion****:* Occipito Posterior position is associated with increase duration of second stage of labour irrespective of parity.

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INTRODUCTION

Position refers to the relationship of an arbitrarily chosen portion of the fetal presenting part to the right or left side of the birth canal. The fetal occiput acts as denominator in vertex and present as left and right occipital abbreviated as left occiput LO and right occiput RO. The vertex enters the pelvis with the sagittal suture lying in the transverse position with left Occipito transverse LOT in 40 percent of labor and right Occipito transverse ROT in 20 percent. In occiput anterior and posterior positions the head either enters the pelvis with the occiput at 45 degrees anteriorly or posteriorly with anterior more common than posterior [1] .Fetal head position can b determined on per vaginal examination or by using TVS. A Study was carried out Neriman Zahalka with the conclusion of TVS being successful and accurate method for determination of fetal head position in the second stage of labor.[2] In Occipito posterior position favourable mechanism occurs in 90 % and due to longer internal rotation (3/8) of circle labour is prolonged as compared to Occipito anterior or transverse. In rest 10 % non rotation or mal rotation occurs leading to arrest or face to pubis delivery. [3]

Aims and Objectives: To study the effect of fetal position in duration of second stage.

MATERIALS AND METHODS

The present observational study was conducted in the Postgraduate Department of Obstetrics and Gynaecology, Lalla Ded Hospital, an associated hospital of Government Medical College, Srinagar over a period of one and a half year. Ethical clearance was obtained from the Institutional Ethical Committee.

Inclusion Criteria

FULL TERM PREGNANCY
CEPHALIC POSITION
SINGLETON PREGNANCY
MULTIGRAVIDA/PRIMIGRAVIDA

Exclusion Criteria

PRETERM
TWINS
BREECH
TRANSVERSE LIE
ANY CONTRAINDICATION TO NVD

After full dilation of cervix position of occiput was noted by doing per vaginal examination after taking proper consent. The

time of delivery was recorded and length of second stage was calculated.

RESULTS AND OBSERVATION

A total of 825 patients were included in our study, however 25 patients developed complications and needed immediate intervention, so only 800 patients were studied over a period of 18 months.

Table 1. Distribution of study patients as per parity

Parity	Number	Percentage
Primi	412	51.5
Multi	388	48.5
Total	800	100

Table 1: 51.5% of our study patients were primigravida and 48.5% were multigravida.

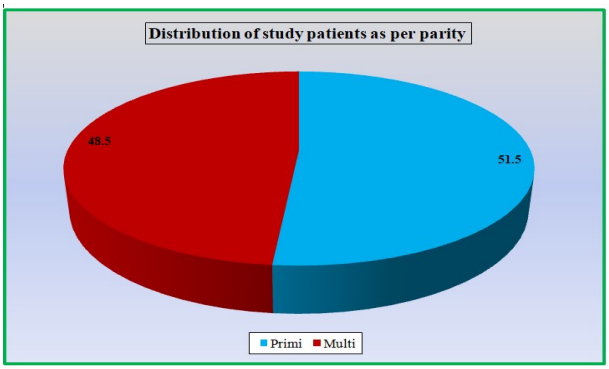

Table 2. Age distribution of study patients

Age (Years)	Primi		Multi		P-value
	No.	%age	No.	%age	
20-24	32	7.8	4	1.0	<0.001*
25-29	344	83.5	148	38.1	
30-34	32	7.8	170	43.8	
≥ 35	4	1.0	66	17.0	
Total	412	100	388	100	
Mean±SD	26.8±2.14		30.7±3.74		

Table 2: Patients were segregated into four age groups 20-24, 25-29, 30-34 and ≥35 years having different percentage of multigravida and primigravida patients as mentioned above.

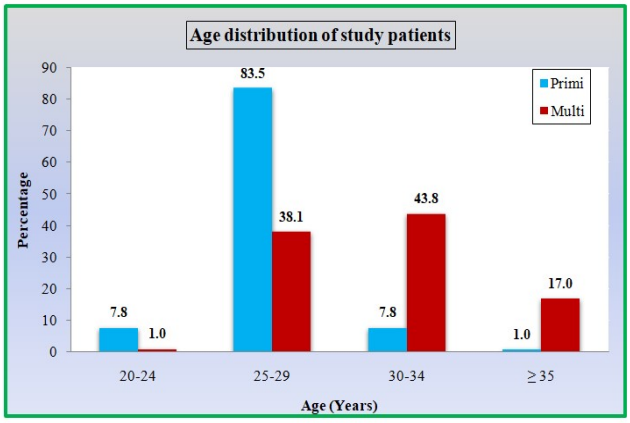

Table 3: Significant correlation was found between parity and type of labour. 51.5% primi had induced labour and 48.5% had spontaneous labour while as 69.6% multi had spontaneous labour and 30.4% had induced labour.

Table 3. Distribution of study patients as per first stage of labour

First stage of labour	Primi		Multi		P-value
	No.	%age	No.	%age	
Spontaneous labour	200	48.5	270	69.6	<0.001*
Induced labour	212	51.5	118	30.4	
Total	412	100	388	100	

*Statistically Significant (P-value<0.05)

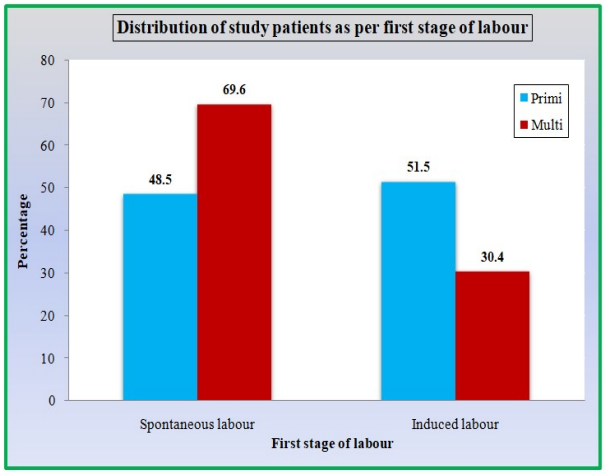

Table 4. Distribution of study patients as per position of occiput

Position of occiput	Primi		Multi		P-value
	No.	%age	No.	%age	
Occiputo Anterior	348	84.5	344	88.7	0.351
Occiputo Posterior	40	9.7	32	8.2	
Occiputo Transverse	24	5.8	12	3.1	
Total	412	100	388	100	

No significant correlation was found between parity and position of occiput (p 0.351).

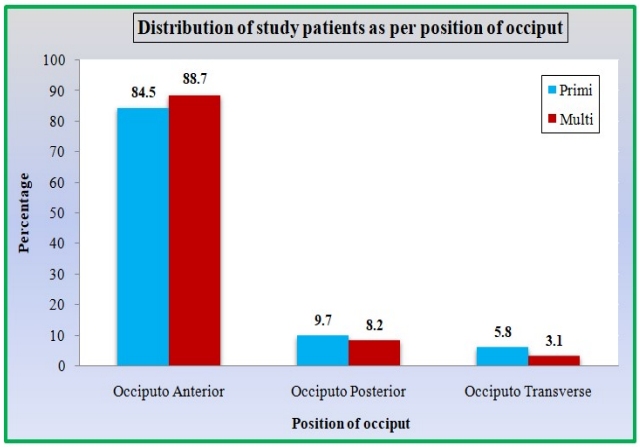

Table 5: Statistically significant relation was noted while studying effect of position on duration of labour. Irrespective of parity (OA) position results in lesser duration of second stage of labour with 46.8% taking <30 minutes.

Duration of labour (Minutes)	OA		OP		OT		P-value
	No.	%age	No.	%age	No.	%age	
< 30	324	46.8	8	11.1	12	16.7	<0.001*
30-60	296	42.8	38	52.8	18	25.0	
> 60	72	10.4	26	36.1	6	8.3	
Total	692	100	72	100	36	50	

*Statistically Significant (P-value<0.05)

DISCUSSION

While studying the effect of position on duration of second stage labour irrespective of parity it was observed to be statistically significant with p value of <0.001. SSD was <30min in 46.8% patients with OA position, 16.7% patients with OT and 11.1% patients with OP position. It was between 30-60 min in 42.8% patients with OA position, 25% patients with OT and 52.8 % patients with OP position.

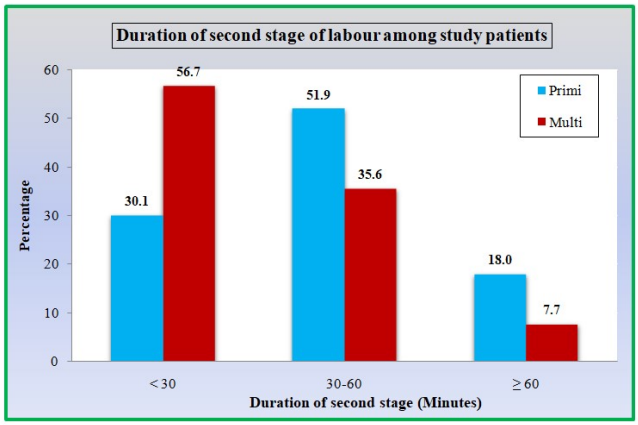

Table 5. Statistically significant correlation was observed between parity and the duration of second stage of labour (p < 0.001)

SSD was >60min in 10.4% patients with OA position, 8.3% patients with OT and 36.1% patients with OP position. The above data depict that the position of fetal head affects the duration of second stage with SSD in order of OP>OT>OA concluding that OA position of fetal head is more favourable. Our observations were similar to Senecal J et al.[4] who studied the effect of fetal position on second-stage duration and labour outcome where they noted that fetal malposition at full dilatation results in a higher risk of prolonged second stage of labor and also increases maternal morbidity indicators.

Kanmani M[5] in his study showed a higher risk for prolonged second stage with unfavourable position at full dilatation in primigravida, he observed SSD>60min in 47.3% patients with OP, 52.7% patients with OT and none of the OA patients which is in concordance to our study.

CONCLUSION

Occipito Posterior position is associated with increase duration of second stage of labour irrespective of parity. Determination of position during second stage of labour helps in proper management of second stage and decreases adverse outcomes.

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