Research Paper

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Study of Second Stage of Labour

Medical Science

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Dr.Jagruti Brahmbhatt 149,A1,Shreejivilla-1,New VIP road, Vadodara-390019

Dr.Gautam Unagar Sanskruti hospital,Varachha road,Surat

Dr.Krutik Brahmbhatt 149,A1,Shreejivilla-1,New VIP road, Vadodara-390019

ABSTRACT

Background:The second stage of labour from full dilatation of cervix to complete expulsion of fetus is the great physical strain,often for mother and always for fetus. It is all the more surprising therefore that, compared with the volumes written about pregnancy and the first stage of labour, so little attention has been focussed on the much shorter but more dramatic second stage.The second stage is short but full of events which can be potentially hazardious for both mother and baby.The present study mainly focuses on primary clinical issues during the second stage like, duration, clinical course, events, proper timing of and type of assistance required during second stage of labour

Objective:Objective of this study is to analyze second stage along with incidence of type of assistance if required including rate of delivery by LSCS.

Material and method: cohort of 96 women, out of which 48 were nullipara and 48 were multipara having live , singletone baby with maturity >38wks,who spontaneously laboured and has reached the second stage were selected and included in study.Second stage was observed with watchful expectancy along with FHS and uterine contractions.Decision for either vaginal delievery or LSCS was taken according to clinical assessment of mother and/or fetal condition.Either instrumental assistance or ephysiotomy was given if required.Data was collected and the second stage of labor was analyzed

Results:In the present study majority 74(77.08%) were registered patients as compare to emergency admissions.The commonest age group was 21-25 yrs. of age for both nullipara as well as multipara.Average duration of second stage in this study was 45 min. for primipara while 27.5min. for multigravida.Incidence of normal vaginal delievery was 62.5% while incidence of operative vaginal delieveries and LSCS was 8.33% and 29.17% respectively.28(29.16%) had undergone LSCS out of which 10(10.41%) of cases birth weight was above 3kgs. 5 min. Apgar score was 9-10 in 93.70% and 7-8 in 6.25% 0f babies in our study group.

Conclusion:The second stage of labour does not need to be terminated for duration alone.Instrumental delievery may help in reducing the rate of LSCS. Restricted episiotomy has better maternal outcomes than a policy of routine episiotomy as well as it is costeffective.There is no relationship between the second stage duration and low 5-minute Apgar score.

Introduction: According to Apsley Cherry-Garrard's, second stage of labour is 'worst journey in the world.'International health policy and programming have placed emphasis on the first stage of labor, including appropriate use of the partogram and identification of hypertension or sepsis, and have also focused on the third stage of labor with active management (AMTSL). However,the provision of skilled care and avoidance of complications during the second stage of labor have been relatively neglected.

Second stage is potentially danger,least attended, most painful and full of fear and anxiety.The present study mainly focuses on primary clinical issues during the second stage like, duration, clinical course, events, proper timing of and type of assistance required during second stage of labour.

Objective: Main objective of this study is to analyze second stage in terms of its duration,clinical course and events. Also to study mode of delievery and incidence of type of assistance if required including rate of delievery by LSCS.

Material and method: Present study has been carried out at dept.of obstetrics and gynecology, sheth V.S.General hospital,ahmedabad during June'2004 to dec.'2005.

Both registered as well as emergency patients were included in this study.

Total cohort of 96 women, out of which 48 were nullipara and 48 were multipara having live , singletone baby with maturity >38wks,who spontaneously laboured and has reached the second stage were selected and included in study.

Exclusion criteria for the study included contracted pelvis, any major medical or obstetric complications ,h/o previous CS or any other uterine surgery.

Second stage was observed with watchful expectancy along with auscultation of FHS after every second uterine contraction for 1-3 min. for rate and rhythm.

Duration, frequency and intencity of uterine contractions were also recorded.

If any abnormality detected in fetal and/or maternal condition either operative vaginal delievery was carried out or patient was taken for emergency LSCS based on clinical assessment.Ephysiotomy was given after infiltration of perineum with 1% xylocaine if required.

Data was collected and the second stage of labor was analyzed. Associations between duration of the second stage and the various maternal and neonatal outcomes were also analyzed.

RESULT:

Table 1: case distribution according to age

age (yrs.)	No. of patients (n=96)	Percentage
<=20	10	10.42%
21-25	58	60.42%
26-30	26	27.08%
>30	02	02.08%

In present study majority of 58(60.42%) belongs to age group 21-25 yrs.while 10(10.42%) were below 20 yrs. of age.

Table:2 Age distribution according to parity

Age (yrs.)	Nullipara	Multipara
<=20	08	02
21-25	38	20
26-30	02	24
>30	00	02

Total 95.83% of nulliparous women were below 25 yrs. of age while 4.17% were above 25 yrs. while in multipara 45.83% were below 25 yrs., 50% were between 26-30yrs. and 4.17% were above30 yrs.

Table 3: admission pattern

Admission	No. of patients(n=96)	Percentage (%)
Booked	74	77.08%
Emergency	22	22.92%

In the present study majority 74(77.08%) were registered patients as compare to emergency admissions.

Table 4: duration of second stage

Duration(min)	Nullipara	multipara
Minimum	20	10
Maximum	70	45
Average	45	27.5

Average duration of second stage in this study was 45 min. for primipara while 27.5min. for multigravida.

Table 5: mode of delievery

Mode of delievery	No. of patients(n=96)	Percentage(%)
FTND	27	28.13%
FTND with ephysiotomy	33	34.38%
Forceps	05	5.21%
Vaccum	03	3.13%
LSCS	28	29.17%

In the present study,incidence of normal vaginal delievery was 62.5% while incidence of operative vaginal delieveries and LSCS was 8.33% and 29.17% respectively.

Table 6:case distribution according to baby weight and mode of delievery

Baby birth weight(kg.)	FTND	Operative vaginal delievery	LSCS	Total no of babies(n=96)
<2	-	-	-	-
2-2.49	15	02	05	22
2.50-3.00	40	03	13	56
>3	05	03	10	18

Most of the babies 68(70.8%) were delievered vaginally while 28(29.16%) had undergone LSCS out of which 10(10.41%) of cases birth weight was above 3kgs.

Table 7:neonatal Apgar score

Apgar score	1 min.	5 min.
1-4	0	0
5-6	5	0
7-8	41	6
9-10	50	90

Total of 90 babies had Apgar score 9-10 after 5 min. Only 6 were having score 7-8 after 5 min. suggestive of good neonatal outcome irrespective of duration of second stage and mode of delievery.

DISCUSSION:

In our study group majority of both primigravida as well as multipara belongs to age group 21-25 yrs. of age. Total of 78(81.25%) out of 96 were belongs to middle socio economic group. Most of cases of our study cohort were registered cases (77.08%) as compare to emergency cases(22.92%).

In our study average duration of second stage of labour was 45 min. in nullipara group while 27.5 min. in multipara group. In study conducted by Stewart [18] it was 39 for nullipara and 15 min for multipara. Another study conducted by Duignan[16],average duration was 41 min. in nullipara and 17 min. in multipara which is quite comparable to the present study. Cardozo et al [17] and Gibb et al[17] had noticed average duration 41 min in nullipara and 18 min. in multigravida patients.

A total of 33(34.37%) women required ephysiotomy in this tudy group. Multiple reviews have demonstrated that a policy of restricted episiotomy (episiotomy only when necessary) has better maternal outcomes than a policy of routine episiotomy, with no adverse effects for the newborn [13,14]. There is no evidence that a policy of routine episiotomy resulted in significant reductions in laceration severity, pain, or pelvic organ prolapse compared with a policy of restricted use [14]. Furthermore, a policy of routine episiotomy is more costly [15].

Total 08(8.33%) women had undergone operative vaginal delievery in present study. Studies suggested that in c/o fetal distress use of instrumental delievery (vaccum extractor or forceps) may help shorten the second stage of labour and reduce the need for LSCS[11,12].

Janni et al[4],observe that the rate of third degree perineal lacerations increased as second stage lengthened. When the second stage was <2 hours, the rate of such tears was 3%, whereas it was 11% when the second stage lasted from 3-4 hours. No such observation was found in our study group.

5 min. Apgar score was 9-10 in 93.70% and 7-8 in 6.25% 0f babies in our study group. Cohen[1], in a study of 4403 nulliparous women, was the first to observe that, although certain maternal morbidities (specifically postpartum hemorrhage and fever) were increased when the second stage of labor was prolonged, neither 5-minute Apgar scores nor perinatal death was related to second-stage duration. Saunders et al[10], came to a similar conclusion in their retrospective review of a regional obstetric database. Among 25,069 term deliveries, maternal infection and postpartum hemorrhage were related to the duration of the second stage, but neonatal condition (as reflected by low Apgar scores or admission to a special care nursery) was not.

Conclusion:

Concept of a distinct second stage within the process of labor is relatively new, having entered the obstetric literature during the last century. The second stage of labour does not need to be terminated for duration alone. There is no relationship between the second stage duration and low 5-minute Apgar score. Instrumental delievery may help in reducing the rate of LSCS. Restricted episiotomy has better maternal outcomes than a policy of routine episiotomy as well as it is costeffective. however, the current medical and nursing literatures differ in their descriptions and priorities for "labor management."

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