TRIAL OF VAGINAL DELIVERY IN CASES OF SINGLE PREVIOUS CAESARIAN SECTION

by

(Miss) V. Dayal

SUMMARY

256 cases with history of the Caesarian section were studied in subsequent delivery. 140 were considered suitable for trial of vaginal delivery and rest 116 cases for elective Caesarean section, Trial of vaginal delivery was successful in 104 cases (74.8%). In the trial group 116 had spontaneous onset of labour and in 24 cases labour had to be induced. The incidence of rupture of scar was found to be significantly higher (62.5%) in cases with previous upper segment Caesarian section than in those with lower segment Caesarian section (4.4% total or 1.7% after excluding impending rupture). Hence in former category of cases repeat Caesarian section should be done preferably around 38 weeks.

In carefully selected cases with previous lower segment Caesarian vaginal delivery may be considered a safe procedure. The concept of "Once Caesarian section always Caesarian" needs re-apprasal.

Introduction

The old saying "once a caesarean section, always a Caesarean Section" needs reappraisal because significant number of patients with previous history of lower segment caesarean section have been known to deliver vaginally in subsequent pregnancies, in some cases even before they reached the hospital.

With augmented availability of adequate surgical facilities the incidence of primary caesarean section has increased. For example in the Kurji Holy Family Hospital, Patna, Bihar, there has been steady rise of primary lower segment caesarean section from 37.98 in 1978 to 55.78% in 1981 (Table I). It will be interesting to observe these patients during subsequent pregnancies and labour and to assess whether under close and efficient Obstetric care some of these patients could be delivered safely vaginally.

The aim of this study is to evaluate the safety or otherwise of this policy.

Material and Methods

Two hundred and fifty-six pregnant women attending ante-natal clinic, or admitted to Obstetric ward or labour room of Kurji Holy Family Hospital who had only one caesarean section in the past were selected for study during the period from January 1978 to June 1981. Careful his-

From: Jaya Prabha Hospital and Research Centre, Patna.

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TABLE I
Incidence of Caesarean Section at KHFK, Patna, India

Year	1978	1979	1980	1981
Total No. of delivery	2920	2523	3740	3911
Total No. of C.S.	532	599	570	562
No. of 1st C.S.	202	203	246	314
% and C.S. in Total delivery	18.2	17.0	15.24	14.30
% and C.S.—First	37.98	33.59	43.16	55.87

tory and thorough clinical examination including pelvic assessment and routine investigation like complete blood count, urine examination, blood sugar where indicated, and X-ray abdomen where there was doubt of maturity or multiple pregnancy were done. Known cases of previous classical caesarean section, woman with no living child, multiple pregnancy, malpresentation, clinical cephlo-pelvic disproportion etc. were not considered suitable for vaginal delivery. Cases having any systemic medical illnesses especially severe anaemia, diabetes mellitus, cardiac and pulmonary diseases or woman with history of more than one caesarean section were exluded from this study. These 256 cases were healthy pregnant women between ages of 18-43 years and having one or more viable pregnancy in the past (Table II). Detailed information regarding the indication of previous caesarean section, type of caesarean section size of foetus, duration of labour, course of puerperium specially of puerperal fever, wound infection and duration of hospital stay were elicited.

One hundred and forty cases were then selected for trial of vaginal delivery (Trial Group). The remaining 116 cases were not considered suitable for vaginal delivery because of various reasons (Table III) and in these caesarean section was contemplated right from the start (Control Group). In the control group there were 6 cases who had ruptured uterine scar even before admission.

The patients in the trial group were closely observed during labour with record of frequency and duration of uterine contractions, foetal heart sounds, development of scar tenderness and progress of labour. Prophylactic antibiotics were given only if the labour was prolonged. Blood was

TABLE II
Age and Parity Distribution

	Age in years					Parity		
Mode of delivery	18-24	25-29	30-35	36-40	41-45	1-2	3-5	>5
Vaginal	53	34	13	3	1	89	14	1
C.S. in foiled trial	18	13	5	Nil	Nil	30	6	
C.S. in control	48	49	18	1	Nil	100	15	1

TABLE III

Indication of C.S. in Control Group of 116 Cases

Cephalo pelvic disproportion	27
Unfavourable cervix at term or at post maturity	23
Bad obstetric history	14
Previous or present failed induction	11
Abnormal presentation	8
Ruptured membrane	9
Foetal distress	8
Tender scar	6
Repair of ruptured uterus in last C.S.	4
Obstructed labour	2
Placenta previa	2
Severe P.E.T.	1
Rh-isoimmunisation	1
Total	116

arranged for cases with anaemias or if caesarean section was contemplated. Forceps was usually appliced at full dilatation of cervix unless the second stage appeared to be very short. Vaginal examination was done at the end of 3rd stage to palpate the scar of previous section.

In the trial group caesarean section was done only if there was slow progress, foetal distress, development of scar tenderness or if forceps failed. Development of tenderness over the scar or haemorrhage or shock during trial of vaginal delivery constituted urgent indications for repeat caesarean section.

Induction of labour was done only if there was pressing indication like post-maturity of more than two weeks. Induction was done by 1 oz castor oil orally followed two hours later by soap and water enema and then by Syntocinon infusion starting with 0.5 unit in 500 ml of 5% dextrose, increasing to 1 unit in 500 ml of 5% dextrose. Rate of drip was increased from 20 drops/min to 60 drops/min by instalment of 10 drops per minute every ½ hour. Artificial rupture of membrane was done at the same time whenever cervix was favourable. A modified Bishop's score of 5 or more was considered to be favourable and chances of vaginal delivery was considered good in them (Table IV).

TABLE IV

Cervical Score / Mode of delivery	Favourable (>5)	Unfavourable (<5)
Vaginal (not induced)	98	6
Forceps in induction Gr.	8	2
C.S. in induction Gr.	2	12

Observation

Of 140 cases in trial group, 104 could be delivered vaginally (74.8%). Eleven of these 104 delivered spontaneously with vertex presentation, 92-required forceps application and one delivered as assisted breech. In 36 cases (25.2%) the trial failed and Caesarean section had to be performed—in 21 for slow progress, in 6 for tender scar, in 5 for foetal distress, in 3 for failed forceps and in one for brow presentation (Table V).

In trial group onset of labour was spontaneous in 116 and induced 24 cases. Actually syntocinon drip was used in total of 31 cases of the trial group—in 24 for induction of labour and in 7 cases for improving uterine contraction during labour. One of these 31 cases where syntocinon was used for improving uterine contraction showed signs of impending rupture (3.2%) (Table VI).

In those cases where vaginal delivery was successful 89 were para one or two, 14 were of parity 3-5 and one was para five (Table II).

Successful vaginal delivery rate in

TABLE V
Methods of Delivery in 256 Cases (6 Admitted With Ruptured Uterus)

Trial for vaginal	Delivery—140 (56%)	C.S. Decided at out set (Control Group)
Trial Successful—104 (74.8%)	Trial failed—36 (Repeat C.S.) (25.1%)	116
Spontaneous vertex—11 Forceps delivery—92 Assisted breech—1	Slow progress—21 Failed forceps—3 Fetal distress—5 Tender scar—6 Brow—1	(7 were found to have classical scar at Operation)

TABLE VI
Use and Hazards of Syntocinon

Use	Hazards
Total No. of cases for infusion:—31 (i) For induction—24 (ii) For poor uterine Contraction—7	Impending Rupture—1 (3.2%)

cases of induction depended on the state of cervix at the start of induction. Ten of the 24 induction cases who had favourable cervix (Modified Bishops score of 5 or more) 8 delivered vaginally with the help of forceps. Fourteen had unfavourable cervix at the start of Syntocinon induction and only 2 could be delivered successfully vaginally, rest 14 needed repeat caesarean section (Table IV).

Duration of labour in successful vaginal delivery cases varied from 2 to 15 hours. In these cases weight of the baby ranged from 2 kg to 4.9 kgs.

Type of Scar and Incidence of Rupture

Out of total number of 256 cases—226 had scar suggestive of lower segment Caesarean section, 8 of classical Caesarean section (all diagnosed at operation) and in 22 the type of scar remained unknown (Table IX). In the trial group, only 1 case had classical caesarean section, rest had lower segment caesarean section. In the control group 7 cases had classical caesarean section and rest lower segment caesarean section. Ten cases of lower segment scar ruptured (4.4%)—6 threatening rupture, 3 complete rupture during labour and one admitted with rupture uterus. Out of the 8 cases of upper segment scar, 5 ruptured (62.5%). The over all incidence of rupture was 15 out of 256 cases (5.8%). In the trial group of 140 cases 6 (4.29%) had ruptured scar—3 incomplete and 3 impending rupture (2.14%) (no actual rupture but very thin scar). In the control group 9 cases had ruptured scar—6 before admission and 3 during hospital stay. Out of 6 cases of pre-admission rupture in control group —5 had upper segment and one had

TABLE VII
Outcome of Labour in Syntocinon Drip

	No. of cases	S.V.D.	Forceps	C.S.
Induction of Labour	24	Nil	10	14
In poor uterine contraction	7	Nil	3 (1-Threate and rup.)	4

lower segment caesarean section. The incidence of complete rupture in lower segment caesarean section was thus low (1.7% when impending ruptures are excluded) as compare to that of upper segment caesarean section (62.5%).

Scar Tenderness and its significance

A glance at the Table VIII shows that the incidence of rupture—complete or impending—was higher (4 out of 6) if scar tenderness was present during labour but was lower (2 out of 6) if scar tenderness was present before labour. Pre-labour scar tenderness could be due to factors like urinary tract infection, trauma or onset of premature labour-pain.

Maternal Death and Foetal Loss

There was no maternal death either in control group or trial group including cases of pre-admission ruptured uterus.

All the babies in the trial group were born alive. In 6 cases of pre-admission ruptured uterus, only one baby was born alive.

Discussion

Out of 256 cases with previous Caesarean section, 140 were selected for trial of vaginal delivery. The trial was successful in 104 cases (74.8%). In the trial group there were 3 cases of incomplete and 3 cases of impending rupture of scar during labour (4.29%) which is higher than reported by Menon (1962), Ghosh (1973), Peel and Chamberlain (1968) Table X). This might be due to inclusion of impending rupture (3 cases) in whom the scar was not actually ruptured but was very thin. Our success rate of 74.8% for vaginal delivery is higher than Menon's (64.1%) and Parikh's series (48.3%) and practically same as Ghosh (77.28%) but lower than Peel and Chamberlain (85.4 to 91.5%).

TABLE VIII
Significance of Scar Tenderness

Scar Tenderness in Labour—6		Before Labour—6
Scar ruptured	2 (1.4%)	Impending rupture—2
Impending rupture	2	Scar Intact—4
Scar Intact	2	

TABLE X
Result of Trial By Different Author

Author	Trial in %	Success in %	Rupture		
			During trial in %	Classical %	Less %
Menon (1962)	72.6	64.1	3.9	11.5	2.7
Ghosh (1973)	40.92	77.28	1.87	22.85	0.97
Peel and (1968)		84.4 to			
Chamber Lane	45-55	91.5	1.1-1.8		
Parikh (1964)		48.03		42.85	1.29
Present series	56.1	74.8	4.29 (2.14 excluding impending rupture)	62.5	4.4 1.7 (When impending rupture is excluded)

TABLE IX
Type of Scar and Incidence of Rupture

Type of scar	No. of cases	No. of rupture	Rupture before labour	Rupture in labour (trial group)
Lower segment	226	—10* (4.4%) (1.7% if threatened rup. excluded)	Threatened rupture-3	Incomplete = 3(2.14%) Threatened = 3(2.14%)
Upper segment	8	5 (62.5)		
Type unknown	22			
Rupture before admission	6 (out of 256)	*One Lower segment 5 Upper segment	Scar Scar	

Prophylactic forceps was used in majority of cases. This has been favoured by Wilson (1951) but not by Browne and Mc.Grath (1965). The latter also did not advocate the routine practice of exploration of lower segment of uterus at the end of 3rd stage as done by us. They suggested exploration only in cases of abnormal vaginal bleeding, pain abdomen or rising fundal hight due to development of broad ligament haematoma.

We used syntocinon drip in 31 cases and incidence of rupture in them was 3.2%. Browne and Mc.Grath have also advocated syntocinon drip for induction of labour though at a higher concentration of 2.5 units per litre.

Our incidence of ruptured uterus in Classical Caesarean section was 62.5% which is higher than reported by Menon, Ghosh and Parikh. This may be because some Classical Section might have delivered vaginally.

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