INTRAPARTUM SCORING SYSTEM OF PREDICTION OF OBSTETRIC OUTCOME : HOW MUCH EFFECTIVE ?

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ABSTRACT

602 randomly selected patients were prospectively scored intrapartum for predicting their obstetric outcome by a scoring system and their outcomes recorded. It was found that as the scores rose, more favourable labour outcome resulted. There was no correlation between the scores and perinatal outcome. Because of many attributes involved, though the scoring was scientific its use by PHC doctors for whom it was supposed to be primarily meant for, is doubtful.

INTRODUCTION

It was Lord Kelvin who ushered in the concept of the use of numbers and measurements in medical science. Since then attempts to quantify medical events have become more than a routine. Scoring systems is one such attempt. In obstetrics it can be defined as formalised method of recognising, documenting and cumulating various factors in order to predict the outcome and later complications for the mother & foetus (Park - 1985). This type of intrapartum risk scoring system, if used to predict labour outcome, should include multiple factors (Gupta - 1983). One such scoring system was forwarded to the obstetricians in 1987 (Bansal - 1987).

This study was carried out with an aim to evaluate the efficacy of this intrapartum risk scoring system in successfully predicting the obstetric outcome. On the basis of the results so achieved, conclusions are drawn.

MATERIAL & METHODS

The prospective study was carried out over a period of one year from 1st Jan. 1989 in the Dept. of Obst. & Gynec., Medical College, Baroda. In the Journal of Obst. & Gynec. of India of 1987, an intrapartum risk scoring system was published. The scoring system was put to scrutiny in 602 randomly selected cases admitted in the labour room of the department. Patients with

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true labour pains and vertex presentation only, were enrolled for the study. Patients with history of previous caesarean section, rupture uterus or hysterotomy were not included. Also, patients with complications like eclampsia, preeclampsia, severe anemia, APH, fetal deaths, obstructed labour, pregnancy with heart disease and the like were also excluded. The attributes of the risk scoring system are as shown in Table I.

Once enrolled and scored, the patient was observed for obstetric outcome, including a three months follow up, the results of which are analysed and discussed.

RESULTS

602 randomly selected patients were enrolled. On the basis of the scoring system shown in

TABLE I

Scoring System

Sr.No. Parameter	Pt.'s Score	Parameter 1	2	3
A	Maternal age (in yrs.)	Less than 19 More than 35 yrs.	31-34	19-30
B	Parity	Primi with Infertility 2 yrs. Grandmulti with BOH.	Primi	Gravida 2-4
C	Maternal height (From ASIS to HEEL).	Less than 75 cms.	76-80	More than 81 cms.
D	Expected Birth weight (in kgs)	More than 3.5	Less than 2.5	2.5-3.5
E	Cervical condition Position Dilatation and Effacement	Posterior Less than 2 cms. less than 25%	Mid 2-4 cms. 25-50%	Anterior More than 4 More than50%
F	Membranes	Absent (H/o PROM)	Flat	Tense during contraction.
G	Station	-3/ above	-2/ -1	O/below
H	Size of pelvis	Inadequate	Borderline (Mild CPD)	Adequate (No CPD)
I	Uterine contrac-tions-Frequency Intensity Duration	1/10" Mild 10"-15"	2-3/10" Moderate 15"-30"	More than3/10' Good 30" or more
J	Foetal heart maternal conditons.	Foetal distress	Foetal distress could be corrected &/or Mat. Exhaustion corrected.	No Foetal distress/

Table I, scoring was done.

Table II,III & IV depict the outcome of labour as per different scores :

Table II : Scores less than 25
Table III : Scores of 26 -27

TABLE II

Score Less than 25 & Labour Outcome.

Outcome	No.	%
LSCS	45	59.2
Forceps	16	20.8
Vacuum	09	11.8
Oxytocin Augm.	06	7.8
Spont. Vaginal Delivery	00	0.0
Total	76/602	12.6%

TABLE III

Score : 26-27 & Labour Outcome

Outcome	No.	%
LSCS	01	0.67
Forceps	14	10.0
Vacuum	15	10.5
Oxytocin Augm.	32	24.5
Spont. Vaginal Delivery	80	56.3
Total	142/602	23.58

TABLE IV

Scores Beyond 27

Outcome	No.	%
LSCS	00	0.00
Forceps	01	0.4
Vacuum	00	0.0
Oxytocin Augm.	13	3.3
Spont. Vaginal Delivery	370	96.3
Total	384/602	63.78

Table IV : Scores more than 27.

As shown in Table II caesarean section rates were nearly 60% whereas there were no spontaneous vaginal deliveries with scores less than 25. With score of 26 and 27 (Table III), though spontaneous labour increased to 56.3% but 44% still required assistance, predominantly oxytocin augmentations. Vaginal deliveries were thus essentially more, but with assistances when scores were 26 or 27.

TABLE V

Scores & Perinatal Outcome

Score	Favourable		Unfavourable	
	No.	%	No.	%
Less than 25 (n=76)	7	9.2	69	90.8
25 to 27 (n =142)	16	11.2	126	88.8
More than 27 (n = 364)	31	8.1	353	91.9
Total - 60	54		548	

Contrastingly, as soon as the scores rose beyond 27, vaginal normal deliveries soared to 96.3% with caesarean section being nil (Table IV).

As shown in Table V, there was no correlation between these scores and fetal outcome.

DISCUSSION

This labour prediction score was forwarded to predict the labour outcome, originally - when put to test in our study, the prediction value of the system was found to be quite encouraging. Akin to the proposer score (Bansal '87) less than 25 hardly led to a spontaneous vaginal delivery (normal delivery) but the same was almost always found in patients with scores more than 27. Thus the statement put forward by the proposer of the score that the scoring system in sensitive in predicting the labour outcome seems quite valid. The prediction on the basis of this study could be :

Scores less than 25 :

- Vaginal delivery less likely
- Institutional delivery thus mandatory.

Scores of 26 & 27 :

- Vaginal delivery with assistance in the form of pitocin augmentation, forceps or vacuum more likely. Thus a close watchful expectancy is desirable.

Scores above 27 :

- Normal deliveries most likely thus institutional delivery not mandatory.

However, it is also imperative to touch the claim that the proposed scoring system is primarily meant for PHC doctors. This seems a tall order. The scoring system is complex, has many attributes and requires elaborate examination which in the existing primary health care system may not prove valid. Total 10 attributes with three variations each, coming to 30 point score is difficult to apply. Though it is not denied that its application by residents and postgraduate obstetricians may seem promising.

By an unfavourable outcome, it was meant that those newborns some morbidity developed. Morbidity was not grouped into major or minor. Morbidity list included : conjunctivitis, umbilical cord sepsis, thrush, meconium aspiration, septicaemia, congenital malformations, etc. Mortality was not considered. No correlation was found between the fetal outcome and the scores, though expected birth weight is one of the parameters of the scoring system.

CONCLUSION

Labour outcome prediction scoring system that was tested was found to be effective in predicting labour outcome. With rising scores more favourable outcomes resulted. No correlation was found between the scores and perinatal outcome.

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