ISAPGOL TENTS FOR IMPROVEMENT OF BISHOP'S SCORE AND AS AN ADJUNCT IN LABOUR

by

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Introduction

From time immemorial, the objective of the obstetricians has been to culminate every pregnancy in healthy mother and healthy baby. Various methods have been used for inducing labour. Laminaria Tents have been used for more than 100 years in Germany and Japan. The present study was conducted to analyse the safety and efficacy of Isaptents in the induction of labour.

Material and Methods

The study was conducted on 100 pregnant patients admitted in State Zenana Hospital, Jaipur. One evening prior to the scheduled insertion, the patient 2-4 Isaptents with thread tied to the sterile gauze pack previously dipped in distilled water was then inserted into the cervical canal, taking care to avoid rupture of the membranes. They were pushed in till the proximal end reached just beyond the internal os. A gauze piece was kept in vagina to keep, the Isaptents in place. Patient was observed for 12 hours. After 12 hours, Isaptents were removed, kept in sterile glucose broth and Bishop's score reassessed. If patients expelled Isaptents earlier, then, these were kept in sterile glucose broth, Bishop's scoring reassessed and amniotomy performed.

Amniotomy was performed in 77 patients. Group I comprised of 41 patients in whom syntocinon drip was started immediately after amniotomy. Group II comprised of 36 patients who, after amniotomy were observed for onset of effective uterine contractions. If they did not deliver within 8 hours of amniotomy, Bishop's score was reassessed and Syntocinon drip started (2.5 Units in 500 ml. of 5% Glucose distilled water at the rate of 10-40 drops/minute i.e. 3.33 milliunits minute to 13.32 milliunits/minute). Details of labour, puerperium and baby were recorded. Both vaginal swabs in glucose broth and Isaptents in glucose broth were incubated and cultured in the Bacteriology Department.

Observations

The patients were of 16-25 years age group and 70% were of gestational age

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40-43 weeks. 62% were multipara and 38% primipara. The presentation was vertex in 102 foetuses and breech in 1 (2 patients with Twin presentation). 66% of the patients had a 4/5th or 5/5th station of the presenting part.

Table I shows the disribution of cases according to the Bishop's score.

Table II shows the total duration of labour in 99 cases (in one patient lower

TABLE I

Distribution of Cases According to Bishop's Score

Bishop's Score	Group I				Group II					
	At amniotomy		8 hours after		At amniotomy		8 hours		of 6 cases	
	No.	%	No.	%	No.	%	No.	%	No.	%
0- 2	0	0	0	0	0	0	0	0	—	—
3- 5	2	4.87	1	7.14	1	2.77	1	5.00	1	16.66
6- 8	17	41.46	4	28.5	10	27.77	4	20.00	2	13.32
9-11	14	34.14	7	50.1	19	56.11	7	35.00	1	16.66
12-13	8	19.5	2	14.28	6	16.06	8	40.00	2	33.32
Total No. of cases	41		14		36		20		6	

The preinsertion Bishop's Score was 5-0 in 100% of cases, hence not depicted in the table.

Mean Values of Bishop's Score

Time	Value
. At insertion of Isaptent-Amniotomy	2.44
3. At 8 hours after Amnitomy	8.63
3. At 8 hours after Amniotomy	9.50
4. At 8 hours after Amniotomy, of 6 cases who required Syntocinon augmentation	8.33

TABLE II

Distribution of 99 Cases According to Total Duration of Labour

Duration in hours	Group I	Group II
0 5	10	18
5 10	13	15
10 15	15	9
15	11	8
Total Mean Value	10.50 hrs.	9.00 hrs.

—MEAN TOTAL DURATION

Induction	Total Duration	
	Group I	Group II
1. Isaptents only (23) cases who delivered before amniotomy	5.90 hours (9 cases)	7.89 hours (13 cases)
2. Isaptents + Amniotomy		
(a) Delivered within 8 hours	7.91" (27 cases)	9.15 hours (16 cases)
.(b) Delivered 8 hours after Amniotomy	12.13 hours (14 cases)	13.49 hours (14 cases)
3. Cases of Group I who required Syntocinon		15.76 hours (6 cases)

segment caesarean section was done early in labour).

Table III shows the distribution of cases according to the amniotomy—delivery interval and mean values obtained thereof.

TABLE III

Distribution of 77 Cases According to Amniotomy Delivery Interval

Duration in hours	Group I	Group II
0 5	28	13
5 10	10	11
10 15	2	9
15	1	3
Total mean value	4.92 hrs.	7.89 hrs

Time	Mean Value Group I	Group II
1. (a) Cases who delivered within 8 hours of Amniotomy	3.52 hours (27 cases)	4.24 hours (16 cases)
(b) Cases who delivered later than 8 hours of Amniotomy	5.60 hours (14 cases)	11.51 hours (14 cases)
2. Of cases of Group II who required Syntocinon augmentation	—	12.31 hours (6 cases)

A successful induction was taken as one in whom Bishop's score after removal of Isaptent was 6 or more.

Discussion

Attempted induction in the presence of unripe and unfavourable cervices is apt to be difficult and carries a high risk of failed induction. Yet, we have tried to attempt induction in such unripe cervices by a relatively new device—Isapgol tents (prepared at Central Drug Research Institute Lucknow from granulated Plantage Ovata) in 100 cases.

Pioneers in the field of induction of labour—Karim *et al* (1971), Anderson *et al* (1971), Hingorani *et al* (1978) have all stressed Induction of labour either by Amniotomy, Amniotomy and Oxytocin drip, Prostaglandins, Mechanical bougies etc. In 1978, Cross and Pitkin used Laminaria tents for induction.

100% of cases had a preinsertion Bishop's score of 0-less than 5, because though these patients had anterior and soft cervices, yet, they were undilated and uneffaced. The mean preinsertion Bishop's score was 2.44. Cross and Pitkin (1978) used Laminaria tents in patients with a preinsertion Bishop's score of 5.2 ± 0.3. At removal of Isaptents, the Bishop's score had increased from 0-5 (2.44 to a mean of 8.63 while with Laminaria tents, Cross and Pitkin (1978) have reported an increase from 5.2 ± 0.3 to 8.9 ± 0.3. It was only in 3 patients, in the present series that the Bishop's score remained 4-5 even after removal of Isaptents, which could probably be either due to (1) Faulty insertion of Isaptents or (2) cervix being refractory to Isaptents. Thus, it is clear that even with a low preinsertion Bishop's score (2.44), Isap tents have resulted in more effective dilatation of cervix than in studies reported with Laminaria tents.

As is evident from Table II, 22 patients (9 of Group I and 13 of Group II) had a marked improvement in Bishop's score because they were either in late labour or delivered before amniotomy. 1 patient of Group II had acute foetal distress before removal of Isaptent, so, Lowere Segment Caesarean Section was performed. Thus, 23 patients (23%) did not require Amniotomy.

Out of 77 patients who required Amniotomy (41 of Group I and 36 of Group II) 27 of Group I and 16 of Group II delivered within 8 hours of Amniotomy. The remaining 14 patients of Group I delivered after 8 hours of Amniotomy. Out of the remaining 20 patients of Group II, 14 (70.00%) delivered spontaneously but, in 6 patients with uterine Inertia, Syntocinon augmentation was done. Out of these 6 patients, 3 (50%) delivered normally and 3 (50%) had Lower Segment Caesarean Section.

The mean Total Duration of Labour was 10.50 hours in Group II and 9.00 hours in Group I. One patient has been excluded as the patient had Lower Segment Caesarean Section for acute Foetal Distress after insertion of Isaptents. The individual durations of labour of the different subgroups of Group I and II are shown in Table III. It is clear that within a period of 8 hours, 22% of the patients had delivered proving that Isaptents have been highly effective not only in achieving cervical dilatation, but, probably also in stimulating onset of painful uterine contractions. Cross and Pitkin (1978) using Laminaria Tents for inducing showed that patients with Bishop's score of less than 5 had total duration of labour of 7.1 $\pm$ 0.6 hours, but, their patients had a higher preinducability score.

The mean Amniotomy Delivery interval was 4.92 hours in Group I and 7.89 hours in Group II. It is evident that the Amniotomy Delivery interval was significantly less in Group I patients who were given Syntocinon Drip immediately after Amniotomy. In Laminaria treated group (Pitkin and Cross 1978), the Amniotomy Delivery interval was 10.01 $\pm$ 1 hours (higher than the total duration of labour), indicating that Laminaria tents helped only in increasing the Bishop's score and have no action on the uterine myometrium (Brenner *et al* 1973). In Isaptents treated group (Present series) as the patients had uterine contractions even before Amniotomy and the Amniotomy Delivery interval was shorter than the total duration of labour, it may be possible that the Isaptents may play some role in initiating the myometrial activity. As the series is small, it is difficult to conclude the same.

80% of patients delivered normally, 11% had a Forceps delivery, and 9% had Lower Segment Caesarean Section. Of the 9 patients in whom L.S.CS. was performed, 3 had Incoordinate Uterine action, 4 had Foetal Distress, 2 had Oligohydramnias, and 1 was Occipito Posterior position. Only 3 patients were operated for Failed Induction. In these patients, the Bishop's score remained 4-5 even after removal of Isaptents. In the other 6 patients in whom Caesarean Section was performed, induction with Isaptents was a success and Caesarean Section was resorted to, because of other obstetrical indications. Induction was thus successful in 97% of patients and 3% were Failures.

All babies born (except 2) had Apgar Score of more than 7. Febrile morbidity was seen in 10% of cases. Khanna *et al* (1979) in their study of Isaptents for therapeutic abortions also reported no alteration in vaginal flora.

Thus, Isaptents seem to be (1) A simple, safe, and effective method of atraumatic,

gradual dilatation of cervix in unfavourable cervices.

(2) There is no dumbbelling as occurs with Laminaria Tents.

(3) Do not fragment during removal.

(4) Do not cause puerperal infective morbidity.

(5) Have no side effects on the foetus.

(6) And are easy to insert.

Summary

100 pregnant patients with unfavourable cervices were induced with Isaptents. The mean preinsertion Bhishop's score was 2.44. The Bishop's score increased to 8.63. 22% delivered before amniotomy. 77% required Amniotomy. The total duration of labour was 9.00 hours in Group I and 10.50 hours in Group II. The mean Amniotomy Delivery interval was 4.92 hours in Group I and 7.89 hours in Group II. 9% required Caesarean Section. Induction was successful in 97% of patients. There were no foetal side effects. 10% of patients had puerperal infective morbidity.

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