

COMPARATIVE STUDY OF KEBUKA OIL AND POTAKI OIL IN THE MANAGEMENT OF CERVICAL DYSTOCIA

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ABSTRACT

Childbirth is a transformative event in a woman's life. It is one of the most tremendous and worthwhile event for mother. The onset of motherhood presents a unique set of physical, emotional, psychological challenges and it is usually a painful experience. Thus effort should be take place with unfathomable repose and minimum level of stress that help in easy natural birth. Normal labour is the process by which the complete products of conception are expelled out through the parturient canal. Abnormalities in either of these may result in dystocia or abnormal labour. An abnormal labor or dystocia, simply means difficult labor or childbirth. From a functional perspective, the only

essential features of labour are cervical dilation and fetal descent. In cervical dystocia, cervix fails to dilate. Cervical dystocia if not diagnosed and treated, can lead to maternal/fetal morbidity and even the mother's mortality. *Potaki* and *Kebuka* both were selected for present research work due to their properties that facilitate smooth and easy delivery.

KEYWORDS: labour, cervical, *Potaki*, *Kebuka*, dystocia.

INTRODUCTION

Normal labour is a multifactorial process which involves myometrial contraction; ripening and dilatation of cervix expulsion of the fetus and placenta in an orderly manner. The first stage of labour in a primigravida lasts about 12-16 hours and in a parous woman 6-8 hours. Based on standard criteria, prolonged latent phase is diagnosed after 21 hours in the nullipara or 14 hours in the multipara. This disorder is relatively rare, occurring in 3-4% of labours.

Prolonged labour has been a dreaded problem for obstetricians. The most common cause of prolonged first stage of labour is cervical spasm leading to cervical dystocia. Many times it is

observed that inspite of good uterine contractions; cervix fails to dilate or dilates very slowly. This is functional cervical dystocia. Methods that aim at minimizing the incidence of functional cervical dystocia and cutting short the first stage of labour are welcome by both obstetricians and women.

Cervical dystocia is one of the most common indications for Caesarian Section. It accounts for about 30% of use all cesarean section. In cervical dystocia there is failure of progress of labour. As we know 2nd stage of labour starts with full dilatation of cervix. In cervical dystocia labour is arrested in first stage. One of the main causes of cervical dystocia is inadequate uterine contraction known as functional cervical dystocia.

In *Ayurvedic* texts, role of *Vayu* especially *Apana Vayu* is considered in stimulation and regulation of normal labour. It acts on myometrium causing regular uterine contractions associated with co-ordinate dilatation of cervix and laxity of perineum. Labour is accomplished by *Vayu*. If *Vayu* is functioning normally and there is no other pathology in passage and passanger, the labour completes with least pain without discomfort and complication.

Aim of study

1. To reflect an over view on the concept of cervical dystocia.
2. To study the comparative effect of *Kebuka & Potaki oil* on subjective and objectives parameters.

Selection of cases

Pregnant women having gestational period more than 36 weeks, with labour pains reached in labour room of Department of *Prasuti Tantra*, Sir Sunder Lal Hospital, Banaras Hindu University, were registered for the present study.

Inclusion criteria

1. Age between 18-36 years
2. Nulliparous to 4th gravida.
3. Gestational age between 36 – 40 weeks.
4. Height between 145 – 170cm.
5. Hemoglobin more than 7 gm.
6. No progress of labour without any pathological dysfunction.

7. Primi with cervical dilatation $< 1.5\text{cm}$ for more than 10 hours in latent phase of labour.
8. Multi with cervical dilatation $\leq 1.5\text{cm}$ for more than 4 hours in latent phase.
9. Primi or multi having no change in cervical dilatation for at least two hours in active phase of labour.

Exclusion criteria

1. Women of age less than 18 years and greater than 36 years
2. Parity more than 5
3. The women with cephalo-pelvic disproportion.
4. Any other indication for elective caesarean section.
5. Women having Hb% less than 7gm%.
6. Women with any systemic diseases, Diabetes, Tuberculosis, Bronchial Asthma, Renal disease, Pregnancy induced hypertension, Eclampsia Cardiac diseases, Blood disorders etc.
7. Women with organic pathology like uterine or cervical fibroid, benign or malignant tumour, history of cervical tear during previous delivery, cervical stenosis etc causing cervical fibro.

Obstetric History

Detailed information about last menstrual period, expected date of delivery, gravidity, parity, number of live births, abortions were taken and noted.

Clinical examination

In selected 52 cases complete general and systemic examinations, per abdomen and per vaginal examinations were performed and noted.

Bishop score was calculated on the basis of per vaginal examination. After complete examination 10 women were excluded from the study due to cephalo-pelvic disproportion.

Investigations

Following investigations were done in total 42 cases:-

1. Hb gm%, Total Leucocytes count and Differential Leucocytes count, platelet count.
2. Blood group and Rh factor of both partners
3. VDRL, HIV, HBsAg for both partners
4. Fasting Blood Sugar (FBS) and blood urea

5. Urine test for routine and microscopic examination
6. USG was done to know exact gestational age, placental site, Amniotic Fluid Index and Bio Physical Profile or any other foetal congenital anomalies.
7. X ray and ECG were also done whenever needed

After all investigations 2 cases were dropped from the study because their Hb gm% was less than 7.

Grouping of cases

After detailed history, complete examination and investigations remaining 40 cases were selected and divided into two groups.

Method of scoring

Progress of labour was assessed on the basis of bishop's score by per vaginum examination.

Table 1: Showing scoring according to Bishop's score

Parameter	Score			
	0	1	2	3
Position of cervix	Posterior	Intermediate	Anterior	-
Consistency of cervix	Firm	Intermediate	Soft	-
Effacement of cervix	0-30%	31-50%	51-80%	>80%
Dilation of cervix	0 cm	1-2 cm	3-4 cm	>5 cm
Station of foetal head	-3	-2	-1, 0	+1, +2

Table 2: Showing grouping of the total cases

S.No.	Group	No of cases	Drugs	Dose
1.	A	20	<i>Potaki Taila</i>	25 ml in each <i>pichu</i>
2.	B	20	<i>Kebuka Taila</i>	25 ml in each <i>pichu</i>

Mode of administration

Pichu of diameter 4 to 6 cm were prepared by using cotton and gauze piece and autoclaved. Size of *pichu* varies in primi and multi patient according to laxity of vaginal canal. *Pichu* was soaked with *Taila* and inserted into vagina in aseptic conditions under normal body temperature. Before insertion of *pichu* p/v examination done and bishops score was assessed and noted.

Total 4 follow-ups were done, two with medication and two without medication. The *pichu* was inserted and removed after 2 hours and p/v examination done to assess the bishop's score and progress of cervical dilatation. If there is no progress in cervical dilation *pichu* was

inserted again and removed after 2 hours and p/v examination was done. The *pichu* was inserted only two times.

Therapeutic study and clinical trial

Table 3: Showing Position of cervix initially and during subsequent Follow-ups in both the groups.

Position of cervix	Initial		Follow-ups							
			FU I		FU II		FU III		FU IV	
	Group A	Group B	Group A	Group B	Group A	Group B	Group A	Group B	Group A	Group B
Posterior	11 (55%)	11 (55%)	0 (0%)	10 (50%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Intermediate	7 (35%)	7 (35%)	10 (50%)	2 (10%)	6 (30%)	4 (20%)	6 (30%)	4 (20%)	6 (30%)	4 (20%)
Anterior	2 (10%)	2 (10%)	10 (50%)	8 (40%)	14 (70%)	16 (80%)	14 (70%)	16 (80%)	14 (70%)	16 (80%)

Table 4: Showing comparison of Position of cervix between initial and different follow-ups in both the groups.

Comparison between initial and different Follow-ups	Z-value (Wilcoxon signed Ranks Test)		P-value	
	Group A	Group B	Group A	Group B
Initial vs FU I	4.010	3.680	<0.001 H.S.	<0.001 H.S.
Initial vs FU II	3.844	3.777	<0.001 H.S.	<0.001 H.S.
Initial vs FU III	3.844	3.777	<0.001 H.S.	<0.001 H.S.
Initial vs FU IV	3.844	3.777	<0.001 H.S.	<0.001 H.S.

Table 5: Showing Consistency cervix initially and during subsequent Follow-ups in both the groups.

Consistency of cervix	Initial		Follow-ups							
			FU I		FU II		FU III		FU IV	
	Group A	Group B	Group A	Group B	Group A	Group B	Group A	Group B	Group A	Group B
Firm	9 (45%)	12 (60%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Intermediate	9 (45%)	5 (25%)	11 (55%)	12 (60%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Soft	2 (10%)	3 (15%)	9 (45%)	8 (40%)	20 (100%)	20 (100%)	20 (100%)	20 (100%)	20 (100%)	20 (100%)

Table 6: Showing comparison of Consistency of cervix between initial and different follow-ups in both the groups

Comparison between initial and different Follow-ups	Z-value (Wilcoxon signed Ranks Test)		P-value	
	Group A	Group B	Group A	Group B
Initial vs FU I	4.000	3.690	<0.005 S	<0.005 S
Initial vs FU II	3.834	3.787	<0.001 H.S.	<0.001 H.S.
Initial vs FU III	3.834	3.787	<0.001 H.S.	<0.001 H.S.
Initial vs FU IV	3.834	3.787	<0.001 H.S.	<0.001 H.S.

Table 7: Showing Effacement of cervix initially and during subsequent Follow-ups in both the groups.

Effacement of cervix (in percentage)	Initial		Follow-ups								
			FU I		FU II		FU III		FU IV		
	Group A	Group B	Group A	Group B	Group A	Group B	Group A	Group B	Group A	Group B	
10-30	13 (65%)	14 (70%)	0 (0%)	1 (5%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
31-50	7 (35%)	6 (30%)	6 (30%)	5 (25%)	3 (15%)	4 (20%)	3 (15%)	4 (20%)	3 (15%)	4 (20%)	
51-80	0 (0%)	0 (0%)	14 (70%)	9 (45%)	5 (25%)	2 (10%)	3 (15%)	2 (10%)	3 (15%)	0 (0%)	
80-100	0 (0%)	0 (0%)	0 (0%)	5 (25%)	12 (60%)	14 (70%)	14 (70%)	14 (70%)	14 (70%)	16 (80%)	

Table 8: Showing comparison of Effacement of cervix between initial and different follow-ups in both the groups.

Comparison between initial and different Follow-ups	Z-value (Wilcoxon signed Ranks Test)		P-value	
	Group A	Group B	Group A	Group B
Initial vs FU I	4.185	3.787	<0.001 H.S.	<0.001 H.S.
Initial vs FU II	4.035	3.944	<0.001 H.S.	<0.001 H.S.
Initial vs FU III	3.921	4.035	<0.001 H.S.	<0.001 H.S.
Initial vs FU IV	2.811	4.023	<0.001 H.S.	<0.001 H.S.

Table 9: Showing Dilatation of cervix initially and during subsequent Follow-ups in both the groups.

Dilatation of cervix (in cm)	Initial		Follow-ups							
			FU I		FU II		FU III		FU IV	
	Group A	Group B	Group A	Group B	Group A	Group B	Group A	Group B	Group A	Group B
1.5-2.5	20 (100%)	20 (100%)	6 (30%)	5 (25%)	6 (30%)	4 (40%)	6 (30%)	4 (20%)	6 (30%)	4 (20%)
2.5-3.5	0 (0%)	0 (0%)	8 (40%)	8 (40%)	3 (15%)	1 (5%)	1 (5%)	1 (5%)	0 (0%)	0 (0%)
3.5-4.5	0	0	6	1	2	1	2	1	0	0

	(0%)	(0%)	(30%)	(5%)	(10%)	(5%)	(10%)	(5%)	(0%)	(0%)
4.5-5.5	0 (0%)	0 (0%)	0 (0%)	6 (30%)	8 (40%)	8 (40%)	3 (15%)	4 (20%)	0 (0%)	0 (0%)
5.5-6.5	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (5%)	6 (30%)	3 (15%)	3 (15%)	0 (0%)	0 (0%)
6.5-7.5	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	3 (15%)	3 (15%)	0 (0%)	0 (0%)
7.5-8.5	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	2 (10%)	4 (20%)	0 (0%)	0 (0%)
8.5-9.5	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	14 (70%)	16 (80%)

Table 10: Showing comparison of Dilatation of cervix between initial and different follow-ups in both the groups.

Comparison between initial and different Follow-ups	Z-value (Wilcoxon signed Ranks Test)		P-value	
	Group A	Group B	Group A	Group B
Initial vs FU I	4.185	4.001	<0.001 H.S.	<0.001 H.S.
Initial vs FU II	3.921	4.017	<0.001 H.S.	<0.001 H.S.
Initial vs FU III	3.820	4.035	<0.001 H.S.	<0.001 H.S.
Initial vs FU IV	2.811	4.023	<0.001 H.S.	<0.001 H.S.

Table 11: Showing Duration of uterine contraction initially and during subsequent Follow-ups in both the groups.

Duration of uterine contraction in second	Initial		Follow-ups								
			FU I		FU II		FU III		FU IV		
	Group A	Group B	Group A	Group B	Group A	Group B	Group A	Group B	Group A	Group B	
25-30	19 (95%)	15 (75%)	1 (5%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
30-35	1 (5%)	5 (25%)	14 (70%)	10 (50%)	11 (55%)	6 (30%)	9 (45%)	4 (20%)	6 (30%)	4 (20%)	
35-40	0 (0%)	0 (0%)	5 (25%)	10 (50%)	8 (40%)	12 (60%)	10 (50%)	14 (70%)	12 (60%)	12 (60%)	
40-45	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (5%)	2 (10%)	1 (5%)	2 (10%)	1 (5%)	2 (10%)	
45-50	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	1 (5%)	2 (10%)	

Table 12: Showing comparison of Duration of uterine contraction between initial and different follow-ups in both the groups.

Comparison between initial	Z-value	P-value
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and different Follow-ups	(Wilcoxon signed Ranks Test)		Group A	Group B
	Group A	Group B		
Initial vs FU I	4.146	4.234	<0.001 H.S.	<0.001 H.S.
Initial vs FU II	3.963	4.064	<0.001 H.S.	<0.001 H.S.
Initial vs FU III	2.820	3.035	<0.001 H.S.	<0.001 H.S.
Initial vs FU IV	2.811	2.023	<0.001 H.S.	<0.001 H.S.

Table 13: Showing Number of uterine contractions in ten minutes initially and during subsequent Follow-ups in both the groups.

Number of uterine contractions in 10 min.	Initial		Follow-ups								
			FU I		FU II		FU III		FU IV		
	Group A	Group B	Group A	Group B	Group A	Group B	Group A	Group B	Group A	Group B	
1-2 cont.	12 (60%)	14 (70%)	2 (10%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
2-3 cont.	8 (40%)	6 (30%)	13 (65%)	10 (50%)	11 (55%)	6 (30%)	9 (45%)	4 (20%)	6 (30%)	4 (20%)	
3-4 cont.	0 (0%)	0 (0%)	5 (25%)	10 (50%)	9 (45%)	14 (70%)	11 (55%)	16 (80%)	14 (70%)	16 (80%)	

Table 14: Showing comparison of Number of uterine contractions in ten minutes between initial and different follow-ups in both the groups.

Comparison between initial and different Follow-ups	Z-value (Wilcoxon signed Ranks Test)		P-value	
	Group A	Group B	Group A	Group B
Initial vs FU I	3.906	3.626	<0.001 H.S.	<0.001 H.S.
Initial vs FU II	4.179	3.852	<0.001 H.S.	<0.001 H.S.
Initial vs FU III	4.820	3.065	<0.001 H.S.	<0.001 H.S.
Initial vs FU IV	3.811	3.023	<0.001 H.S.	<0.001 H.S.

RESULTS

Observations and effects of drug were analyzed and noted. Results were assessed on the following basis –

1. Anterior position of the cervix
2. Soft consistency of the cervix
3. More than 80% Effacement of the cervix
4. 8-9 cm Dilatation of the cervix

Satisfactory - When all of the above 4 parameters were fulfilled.

Non-Satisfactory- When 1 or 2 from the above 4 parameters were fulfilled.

Table 15: Showing results in total cases and both the groups.

Result	Total (n=40)	Group A (n=20)	Group B (n=20)
Satisfactory	30 (75%)	14(70%)	16 (80%)
Non-Satisfactory	10 (25%)	6 (30%)	4 (20%)
Between the Group comparison (PEARSON Chi-square test)	$\chi^2 = 7.300$ p = 0.26 (NS)		

Observation & Discussion

Total 40 cases were registered for the present clinical study and observations were made during the study about history (general, personal, menstrual and obstetrical), examinations (physical, systemic and local) along with investigation (routine and specific) were done in both the groups.

Table no 3 and 4 show that, posterior position of cervix was seen in 11 women initially in both the groups, while intermediate and anterior position of cervix were seen initially in 7 and 2 women respectively in both the groups. Change in position of cervix was seen from the 1st follow-up in both the groups.

Table no 7 and 8, show that initially 10-30% of Effacement of cervix was seen in 13 and 14 women of group A and B respectively while, 31-50% of Effacement of cervix was seen initially in 7 and 6 women of group A and B respectively. Effacement of cervix was increased gradually. During 4th follow-up it was seen in 70% of women of group A and 80% of women of group B.

Dilatation of cervix was seen 6.5-7.5 cm in 3 women of both the groups during 3rd follow-up, while 8.5-9.5 cm dilatation of cervix was seen in 14 and 16 women of group A and B respectively during 4th follow-up. Table no 11 & 12, show that initially duration of uterine contraction was 25-30 seconds in 19 and 15 women of group A and group B respectively, while 30-35 seconds of duration was seen initially in 1 women of group A and 5 women of group B.

Duration of uterine contraction increased gradually and reached up to 35-40 seconds in 5 and 10 women of group A and B respectively during 1st follow-up, while 40-45 seconds of duration of uterine contraction was seen in 1 women of group A and 2 women of group B after

1st follow-up. Further 45-50 sec. duration of contraction was seen in 1 and 2 women of group A and B respectively in 4th follow-up.

When comparison was done between initial and different follow-ups in group A and group B, highly significant results were seen during different follow-ups in both the groups.

As evident from table no. 15, those satisfactory and non-satisfactory results were seen in 75% and 25% of women respectively.

In group A, satisfactory result was seen in 70% of women, while in group B it was seen in 80% of women. Non-satisfactory result was seen in 30% and 20% of women of group A and B respectively. Slight better results were seen in group B in comparison to group A.

During statistical comparison results were same in group A and B, may be due to very small sample of research works.

CONCLUSION

- I. Cervical dystocia is a condition where cervix fails to dilate during labour.
- II. Cervical dystocia is mainly seen in primi women.
- III. Group A is treated with *Pichu of Potaki taila* and group B is treated them with *Pichu of Kebuka taila*.
- IV. Group B gives slight better results in comparison to group A.
- V. Group A and B, both give good results in multi women in comparison to primi women.
- VI. *Kebuka taila pichu* gives slight better result than *Potaki taila pichu*.
- VII. During statistical comparison results were same in group A and B, may be due to very small sample of research works.

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