

A CLINICAL STUDY OF EFFICACY OF TOPICAL APPLICATION OF LODHRADI CHURNA IN UMBILICAL CORD CARE OF NEWBORN BABY

Dr. Kshitija Santosh Londhe^{1*} and Dr. P. K. Dash²

¹PG Scholar Department of Kaumarbhritya, Yashwant Ayurvedic College, PG Training and Research Center, Kodoli, Kolhapur.

²Guide and HOD MD PhD., Department of Kaumarbhritya, Yashwant Ayurvedic College, PG Training and Research Center, Kodoli, Kolhapur.

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***Corresponding Author**
Dr. Kshitija Santosh
Londhe

PG Scholar Department of
Kaumarbhritya, Yashwant
Ayurvedic College, PG
Training and Research
Center, Kodoli, Kolhapur.

ABSTRACT

Newborn health and survival depends on the care given to the newborn, although care is a very essential in reducing child mortality. About 25% of global neonatal death/ year occur in india alone and amongst them bacterial for about 36%, of which umbilical cord infections are an important precursor. Thus, Prevention is better than Cure, application of topical medications being one of the routes of drug administration have also been appreciated in our ayurvedic classics too. The importance and necessity of *nabhinalparicharya* are very clearly understood by *Acharyas* and are vividly stated in the *samhitas*. In *Ayurveda*, *nabhi* is mentioned as *sadyapranahar marma*, any of the ailments of deformity occuring at site of *marma* is not only difficult cure but might be sometime fatal to life. Therefor, *Nabhi upakrama* is very essential and vital for newborns. The present study was undertaken to evaluate medication of *Lodhradi Churna* in protecting umbilical sepsis in healthy newborn. This study provide nil discharges,

no swelling and redness and minimal microbial growth percentage from the sample of umbilical stump till the day 15 of newborn.

KEYWORDS: Newborn, Umbilical sepsis, Cord cut and care, Ayurveda, Lodhradi Churna.

INTRODUCTION

The World Health Organization (WHO) estimates that 4 million children die during the neonatal period each year, with most deaths occurring in developing countries.^[1,2] Neonatal Mortality Rate of India has more than 20 causes like – Prematurity, Birth Asphyxia, Infections, Hypothermia, Feeding Problems. Infections are the single most important cause of neonatal mortality of which umbilical cord infection constitute a major cause of neonatal morbidity and risk for mortality. Data available also reveals that omphalitis is a major culprit for neonatal sepsis due to improper care of umbilical cord.^[3]

In intrauterine period umbilical cord is the lifeline between the fetus and placenta. It is formed by the Sixth week of development & it functions throughout pregnancy to protect the vessels that travel between the fetus and the placenta.

Throughout the life everyone has to face different types of cuts and wounds. The 1st cut wound which the newborn gets is at birth i.e. cut of umbilical cord. After the umbilical cord is cut at birth, a stump of tissue remains attached to baby's belly button (navel). The stump gradually dries and shrivels until it falls off, usually 1 to 2 weeks after birth. It is important to keep the umbilical cord stump and surrounding skin clean and dry. The risk of cord infection increases with unhygienic cutting of the cord and the application of unclean substances to the stump.

In Ayurveda, nabhi is mentioned as sadyapranahar marma,^[4] any of the ailments of deformity occurring at site of marma is not only difficult cure but might be sometime fatal to life. Therefor, Nabhi upakrama is very essential and vital for newborn.

Omphalitis is thus a serious infection that needs aggressive treatment. According to available studies, chlorhexidine, tincture Of iodine, povidone iodine, silver sulfadiazine and triple Dye appear to be most value in controlling umbilical Colonization.^[5,6] But few of them are having some side effects like local irritation, allergic and contact dermatitis.^[7] Also sometime there is resistance for some antibiotics. Various measures of umbilical cord care have been described in *ayurveda* classics under *navajata shishu paricharya*. So to establish the importance of *Ayurvedic* concepts and remedies related to *Nabhinal paricharya*, using topical application in the form of medicated churna this study is selected.

In the present study, “Lodhradi Churna”^[8] was selected. This formulation has been mentioned in *Charak Samhita*. It contains *Lodhra*, *Madhuk*, *Priyangu*, *Surdaru* and *Haridra*. All have strong antiseptic and disinfectant properties.

MATERIALS AND METHODS

- **Aim and Objective** - To assess the efficacy of topical application of *Lodhradi Churna* in routine cord care.
- **Study Design** – An open label study.
- **Inclusion Criteria** – All term clinically stable neonates of either gender.
- **Exclusion Criteria** – Preterm term and VLBW Babies, Any kind of life threatening congenital anomalies, Neonates requiring Intensive care, any umbilical cord malformations.
- **SOP of Procedure** – Informed consent was taken prior to enrollment from parents. Cord was clamped with aseptic precaution and cut with cord cutting scissor.
- **Intervention** – *Lodhradi Churna* was applied to the cut end and surface of cord after cutting cord thereafter twice daily for 8 days. Neonates examined and assessed at birth, 1st, 2nd, 3rd, 4th, 8th and 15th day of life for both systematic and local signs. Neonates were discharged on 8th day of life.

Systemic Assessment – Systematic features assessed on each follow up in newborns were temp, feeding pattern, bowel habits, urination, activity and color.

Local Assessment – Newborns were assessed in view of local signs and symptoms of omphalitis, Moistness, Discharge, Redness, Foul smelling, Day of cord fall. The grade (0,1,2,3) assigned to each symptom.

Parameters Assessed According to Analog Scale

Sr. No.	Parameters	Description	Grade
1	Moistness	Absent Present	-
2	Shrunked Cord	Present Absent	-
3	Foul smelling	Present Absent	-
		Nil - No soakage of guaze	0
4	Serous Discharge	Mild - only spotting of guaze	1
		Moderate - Soakage of 1 guaze	2
		Severe - > 1 guaze soakage	3
5	Local Erythema	No Peri Umbilical erythema / Nil - 0	0
		Peri Umbilical erythema limited to umbilicus Mild-1	1

		Peri Umbilical erythema 0.5 cm	2
		surrounding the umbilicus Moderate-2	
		Peri Umbilical erythema > 0.5cm	3
		surrounding the umbilicus Severe-3	
		On 4 th - 5 th day	0
6	Day of Cord fall	On 6 th - 7 th day	1
		On 8 th - 10 th day	2
		More than 10 days	3

Sr. No.	Parameters	Scoring				Before T/T	Day 1st	Day 2nd	Day 3rd	Day 4th	Day 8th	Day 15th
1	Moistness	0	1	2	3							
2	Shrunked Cord	Absent	Present									
3	Foul smelling	Present	Absent									
4	Serous Discharge if any	Nil	Mild	Moderate	Severe							
5	Local Erythema	Nil	Mild	Moderate	Severe							
6	Day of Cord Fall	4th-5th day	6th-7th day	8th-10th day	> then 10 day							

OBSERVATIONS AND RESULT

In present study total 15 subjects (n = 15) 08 male, 07 female were recruited and all of them successfully completed the protocol. The mean weight of newborn was 2831 gm, the mode of delivery was LSCS 10 and NVD 05. In the present study, mean days of separation of cord has been significantly less in subjects delivered through NVDz when compared to those delivered through C – section.

- The symptom discharge was found in only 4 neonates, mean was 2 on birth which reduced to 0.2 to 0 respectively with significant results.
- Redness only 5 Neonates had symptom which clinically reduced on 2nd day only.
- None of the newborns were found with swelling as a symptom.
- Smell only 6 had symptom, significant reduction was on day 2 from 0.89 to 0.11 and total disappearance on discharge itself.

DISCUSSION

The drug *Lodhradi Churna* is considered to be effective in alleviation of *kapha dosha* and also cure disease caused due to vitiated blood (*Rakta*).^[9] *Lodhradi Churna* has antiseptic, anti hemorrhagic, anti inflammatory and anti histaminic properties. Thus based on above parameters, the selection of classical drug, *Lodhradi Churna* as a cord care intervention can be rightly justified.

CONCLUSION

Lodhradi Churna application helps in early cord fall, also it helps in reduction of signs of local inflammation when compared to dry care group. *Lodhradi Churna* can be adopted in routine cord care practice as a preventive measure.

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