



## CONCEPT OF INDUCTION OF NORMAL LABOR THROUGH AYURVEDA

\*Prathima

Associate Professor, Department of Prasuthi Tantra and Stree Roga SDM College of Ayurveda and Hospital Hassan, Karnataka, India.

\*Corresponding Author: Dr. Prathima

Associate Professor, Department of Prasuthi Tantra and Stree Roga SDM College of Ayurveda and Hospital Hassan, Karnataka, India.

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### INTRODUCTION

In the present day scenario, incidence of operative interference in labor is increasing due to many causes like delayed conception, lack of pain threshold and high risk pregnancies. As the process of child birth is a natural one, emphasis can be given to promote normal labor. *Ayurveda* has given prime importance to antenatal care and labor process. For *prasava*, proper functioning of *Apana vata* is essential. *Apana vata vaigunya* leads to *garbha sangra* or *moodagarbha*. For achieving this, various treatment modalities are described in *Ayurveda*.

#### Causes of *Prasava*<sup>[1]</sup>

*Acharya Sushruta* has given a simile regarding the onset of *sukha prasava*, he states that a fruit gets detached from its stalk after attaining paka in a right time, comes down naturally, in the same way *garbha* after attaining maturity in an appropriate time gets detached from its *nadi nibhandana* and proceeds for normal labor due to its *swabhava*. With the help of *prasuthi marutha*, the head of the fetus gets turned and comes forward and then expelled through vaginal passage.

*Acharya sushruta* has emphasized more on *kala*, *swabhava* and *nadi nibhandha*, because the combine effects of all the three is the cause or result for detachment of *garbha* or the fruit. *Acharya harita*<sup>[2]</sup> quoted *vairagya* as one of the cause i.e. *vairagya* from *garbhavasa*. Here *Vairagya* means aversion and the fetus gets born in the 10<sup>th</sup> month. *Acharya Bhela*<sup>[3]</sup> quotes that, after attaining “*Sampurna Gatravta*”, then only *prasava* proceeds.

#### Indication<sup>[4]</sup>

When the risks of continuation of pregnancy either to the mother or to the fetus are more, induction is indicated.

Before induction, one must ensure the gestational age as well as pulmonary maturity of the fetus.

#### Indication for induction of labor

- ❖ Pregnancy induced hypertension
- ❖ Premature rupture of membranes
- ❖ Post maturity
- ❖ Fetus with major congenital anomalies
- ❖ Intrauterine death of fetus
- ❖ Oligohydramnios, polyhydramnios
- ❖ Abruptio placenta
- ❖ Intrauterine growth restriction

#### Contra indication

- ❖ Contracted pelvis and cephalopelvic disproportion
- ❖ Malpresentation
- ❖ Previous caesarean section / hysterotomy
- ❖ Active genital infection
- ❖ Elderly gravida with obstetric or medical complications
- ❖ Umbilical cord prolapse
- ❖ Cervical carcinoma
- ❖ Heart disease
- ❖ Pelvic tumor
- ❖ Unexplained vaginal bleeding, vasa previa, placenta previa.

#### Parameters to be assessed prior to induction

Table no: 1

Maternal	Fetal
Confirm the indication for IOL	Ensure fetal gestational age
Exclude the contraindication	To estimate fetal weight (clinical & USG)
Assessment of bishops score	Ensuring fetal lung maturation status
Assessment of pelvic adequacy	Ensure fetal presentation & lie
Adequate counseling about the risks, benefits and alternatives of IOL	Confirm Fetal Well Being

**BISHOP'S SCORE**

It is also known as cervix score is a pre-labor scoring system to assist in predicting whether induction of labor will be required.

**Table no: 2**

Parameters Cervix	Score			
	0	1	2	3
Position	Posterior	Mid position	Anterior	-
Consistency	Firm	Medium	Soft	-
Effacement	0-30%	30 – 50%	60-70%	>80%
Dilatation	Closed	1-2 cm	3-4 cm	>5cm
Station	-3	-2	-1	+1, +2

**Methods of induction & Augmentation of labor in Ayurveda**

1. *Aahara and aushada*
2. *Yoni Pichu*
3. *Basthi (Anuvasana & Asthapana Basthi)*
4. *Mani dharana*
5. *Abhyanga*
6. *Lepa kalpana*
7. *Dhupana karma*
8. *Nasya karma*
9. *Mantra chikitsa*
10. *Yogasana*

**Methods for induction and Augmentation of normal labor****1. Aahara and Aoushada Garbhini paricharya<sup>[5]</sup>**

Health of child is influenced by its proper growth and development during intrauterine life. The *upachitha rasadhatu*, circulating in the body of the pregnant women simultaneously performs three functions such as *Shareerapushti* of the mother. Meanwhile *rasadhatu* from the maternal body is transferred to the *garbha* through the *nabhinadi*, this maintains the proper growth of *garbha* inside the mother's womb. The third function is the formation of *stanya*.

According to *Acharyas*, during first trimester use of *madhura, sheeta dravya* with milk helps in reducing nausea, vomiting cures dehydration and supply proper nourishment.

In second trimester, use of *ksheera, navaneeta, sarpi, jangala mamasa rasa sevana, yavagu pana* helps in formation of *mamsa shonita* of *garbha*. By the end of second trimester due to accumulation of water because of growing fetus, edema of feet and other complications can occur to prevent these, uses of *gokshura, vidari gandhadi gana dravya* advised as it suppresses *pitta* and *kapha*.

In third trimester, due to pressure of gravid uterus over the bowel and effect of progesterone, constipation and gastric irritation is one of the symptom to prevent these administration of *basthi* is advised.

In 9<sup>th</sup> month administration of *Sukhaprasavada gritha, dadimadi gritha, sukumara gritha, eranda taila, vasa swarasa, dashamula kashaya, ajamoda kashaya, Matulunga moola* and *Madhuka churna* with *grhuta, Kushta* and *ela kalka* with *sura* advised for *sukha prasava*.

**Benefits of garbhini paricharya<sup>[6]</sup>**

- *Acharyas* says women remains healthy and delivers the child possessing good health, energy or strength, voice, compactness and superior to other family members.
- By following this *masanumasika paricharya* the fetal membranes or vaginal canal, sacral region, flanks and back become soft.
- *Apana vayu* helps in functioning of *garbha nishkramana kriya* and does expulsion of fetus.

**2. Yoni pichu<sup>[7]</sup>****Definition**

- *Pichu sthulakarpatika* (*cha.chi.19/45*)
- *Pichu vartya* (*cha. Sha. 7/32*)
- *Pichu karpaasatulaam*
- *Pichu tula bijahinam karpaasa protam vastram* (*su. Su.13/19*)

The *pichu* is used by soaking in *taila* or medicinal *kwatha* or *siddha ghritha* or *madhu in prathama avarta*.

*Acharya charaka* advised to give *anuvasana basthi* and *yonipichu* of *madhuragana oushadha siddha taila* for *snehana* of *apathyapatha* and *garbhasaya*.

**Yoni pichu dravyas**

- *Bala Taila, Shatapaka Bala Taila, Dhanvantara taila*
- *Taila of Shatapusa, Kushtha, Madanaphala and Hingu*
- *Guda, Kinva, Lavana and Nirayasa of Shalmali and Atasi*
- *Potaki Mula Taila/Kalka*
- *Bhojapatra, Kalihari, Katutumbi, Sarpa Twaka, Kushta and Sarshapa Kalka*

**Mode of action**

Vagina is a highly effective site for drug administration because does not affect gastrointestinal system. Changes

in the PH of vagina will alter degree of ionization of weak electrolyte drugs and affect the release profile of pH sensitive drugs.

Stretching or irritation of the nerves in the cervix initiates reflex to the body of the uterus it leads to release of prostaglandins. These prostaglandins enhance gap formation and their synthesis there by initiating labor.

*Prasava* or *garbhanishkramana* is the function of *apana vata* along with *prana vayu*. In *Navama maasa*, *vayu* becomes active. Therefore *yonipichu* and *basthi* were advised, due to which *snehana* of *apathyapatha* occurs by reducing *rukshadi guna* which does *vata anulomana* and leads to *sukha prasava*. After keeping the medicine in the vagina, oxytocin is released, which stimulates uterine contractions, which in turn increases pressure on the cervix, till delivery of baby.

Oxytocin acts on the myometrium, on receptors which have been upregulated by a functional increases of

estrogen – progesterone ratio. This causes myometrial contraction and further positive feedback on the reflux.

### 3. *Anuvasana & Asthapana Basthi*<sup>[8]</sup>

#### Definition

*Acharya Charaka* has defined the *Basti* as the procedure in which the drug prepared is administered through rectal canal, reaches upto the *Nabhi, Kati, Parshva, Kukshi Pradesha* churns the accumulated *Purisha* and *Dosha* and spreads the unctuousness (potency of the drugs) all over the body and easily comes out along with the churned *Purisha* and *Doshas*.

#### *Basti Dravya for Anuvasana Basti*<sup>[9]</sup>

*Acharya Sushruta* has advised *Aasthaapana Basti* with decoction of *Badari* mixed with *Bala, Athibala, Shatapushpa, Palala*, milk, curds, *Masthu*, oil, salt, *Madanaphala*, honey and ghee and followed by *Anuvaasana Basti* with oils medicated with milk and *madhura aoushadha siddha anuvasana basti*. As it does *puranamala sudhi, vata anulomana* and helps in *sukha prasava*.

**Table no 3:  
Dosage of Basthi**

Sl No.	Anuvasana Basthi	Asthapana Basthi
1.	<i>Ksheerabala taila</i>	<i>Phaladi kwatha,</i>
2.	<i>Dhanwantara taila</i>	<i>Sidharthakadi kwatha</i>
3.	<i>Shatahvadi taila</i>	<i>Shalmalyadi kwatha,</i>
4.	<i>Shatapuspadi taila</i>	<i>Shatapushpadi kalka</i>
5.	<i>Katu taila</i>	
6.	<i>Kadambamasha taila</i>	

According to *Acharya Sushruta*, the dose of *Matrabasti* is 1/4 of dose of *Anuvasana Basti* and the dose of *Anuvasana Basti* is 1/4 of *Niruha Basti* i.e. 24 *Pala*. Hence, the dose of *Anuvasana Basti* is 6 *Pala* and dose of *Matrabasti* is 1½ *Pala* i.e. 6 *tola* (equal to 60-70 ml).

#### **Basti procedure**

##### **Purva Karma**

- Patient was advised to take meals and walk a while
- 60 ml of *Taila* was taken and slightly heated over hot water
- Later this *Taila* was taken in a syringe of 60 ml capacity to which a sterilized rubber catheter no 11 was attached

##### **Pradhana Karma**

- Now the patient was advised to take left lateral position with left lower limb straight and right lower limb flexed at knee and hip joint. The patient was asked to keep his left hand below the head.
- Then lubrication is done using oil at *Guda* and catheter and little amount of oil are made to flow out in order to get rid of air bubbles, if at all was present. The rubber tube was passed up to 4.5 inches inside the rectum.

- While inserting the catheter patient was advised to take deep breath and to relax his body.
- Then the *Basti Dravya* was pushed inside slowly with the constant speed without shaking then slowly catheter was removed.

##### **Paschat Karma**

Tapping is done on the buttocks and patient was made to lie in left lateral position for 30 minutes.

##### **Mode of action of Basti**

The *Basti* is introduced into the rectum shows its effect at two levels-

- 1) Local: The *Basti* by its *Sneha Guna* counter the *Rukshata* in the *Pakwashaya* and does *Anulomana* of *Vata Dosha*.
- 2) Systemic: The *Basti Dravya* gets absorbed into the circulation to exert a systemic effect. This aspect is dealt in two aspects-

##### **a) Brihmana and Rasayana**

*Acharya charaka* gives the simile of watering of a plant. Just as the plant watered at the root nourishes and in due course grows into a tree bearing flowers and fruits. *Basti Dravya* by its *Virya* reaches the whole body and nourishes it through *siras*.

**b) Treatment of a disease**

Acharya Vagbhata explained that the *Virya* of drug is transferred from *Apana* to *Samana*, *Samana* to *Vyana*, *Vyana* to *Udana* and *Udana* to *Prana* and brings them back to normalcy. The normal *Vata* then takes care of *Pitta* and *Kapha* and maintains them in their respective *Sthanas*. The *Apanadi Vayu* absorbs the *Virya* and through *Nadi* carries it to their respective *Sthana* for action. Thus *Virya* of the *Basti* reaches all parts of the body through *Siras* and cures the diseases.

**4. Mani dharana<sup>[10]</sup>****Definition**

Tying of *mani dharana* over waist / thighs during the labor.

**Drugs**

- Root of *hiranya pushpa* in tied over arms & legs
- Root of *vishalya* or *sauvarchla* can be tied over arms & legs.
- Roots of *ikshu* tied in waist.
- Roots of *apamarga*, *paaribhadra*, *kakajanga* should be tied in waist.

**Mode of action**

According to *Ayurveda*, all the drugs which are given to tie on the body act through the *prabhava* concept. Contact of the drug with the body surface may trigger the necessary hormones or reflexes required for proper expulsion of fetus.

**5. Abhyanga<sup>[11]</sup>**

- पार्श्वपृष्ठकटीसक्थिदेशान् कोष्णेन  
तैलेनाभ्यज्यानुसुखमस्या मृदनीयात्  
एवमवाक् परिवर्तते गर्भः॥१९॥ (A. Sa Sha. 3/20)
- *Apathyamargam tailena sambhyjya samanthataha* ||  
Ba. Pra. Pur 3/356-7
- विशिखान्तरम् अपत्यमार्गम् अनुलोमं लोमानुकूलम्  
अनुसुखं यथासुखम् || (su sha 10/9)

All *Acharyas* advised the use of *sneha* both *abhyantara* and *bahya* followed by *usnodhaka snana*. *Abhyanga* helps in desend of *gabha* and which will pacify *vata prakopa*.

**Mode of action**

- Trans abdominal route: *Abhyanga* increase warmth of skin and improves blood circulation, therefore increase the ability to absorb essential oils. Most essential oils are chiefly fat-soluble and partly water-soluble. Thus lipid soluble makes it through the layer and into circulation faster. This is why they are easily absorbed into the skin that is semi-permeable by simple diffusion.
- Transvaginal route: vaginal mucosal layer contain elastic fibers & highly vascular it increases elasticity of perineum. Drug absorption occurs in vaginal lumen & membrane penetration takes place. As the

vaginal epithelium has high activity of enzymes it helps in cervical dilataion.

**Lepa kalpana**

It comes under the second group that is *bahir parimarjana*. The medicines in the form of paste used for external application are called as *Lepa*. They are prepared with wet drugs or dry powders.

**6. Lepana karma<sup>[12]</sup>**

*Langalyamulena usnena vaarina nabhilepena shigram garbho jayathe cha | balaamula ..... Sukhena sa prasuyathe* ||[ha. Tru. 52/18-21]

- *Pippali* and *vacha lepa* over *udara*
- *Yoni lepa* with *shalmali niryasa* mixed with *sarpi*
- *Yoni lepa* with *guda* and *shunti*
- *Bala, suryakanti* and *somavalli mulas lepa* with *kanji*
- *Langali mula lepa* over *nabhi*

**Technique of application**

- *Lepa* should be applied in the direction opposite to hairs in this way it stays well, enters into hair follicles and *virya* permeates through the sweat carrying vessels.

**Time of application**

- As per requirement i.e. sufficient enough to be applied around the *nabhi pradasha/ yoni pradasha*. During the time of onset of labor pain *lepa* should be applied. Once it gets dried again application can be done.

**Mode of action**

Application of *lepa* on abdomen increases temperature of *twak* at the local area and increases subcutaneous as well as peripheral circulation this leads to increased permeability and vasodilatation, it induces tissue reaction. Local tissue factors released i.e. prostaglandins. Prostaglandin helps in cervical dilatation, increases uterine contraction.

**7. Dhupana karma<sup>[13]</sup>**

- Administration of *dhuma* with the help of *dhupana dravya*.

**Timing:** *Dhupana* given in between contraction period along with *mrudhu abhyanga* helps in increasing the uterine contraction

**Route of administration**

- 1) Nasal
- 2) Vaginal

**Dravyas**

- *Bhurja patra*, resin of *Simsipa* and *sarjarasa*
- *Madhana phala*
- *Dviharidra* and *brihati phala*
- *Krishna sarpa nirmoka, bhurja patra, kaachamani*

**Mode of action**

*Dhoopana* is *srotoshodhana*, thus carries the active principles of the drug through its *sookshma guna* to the desired *anga* where action is required. It helps in normalization of *apana vayu*.

It is disinfectant, anti-microbial; anti septic thus helps in preventing infection.

It is *mardhavakara* and thus relaxes the perineal muscles and dilates the vagina.

**8. Nasya karma<sup>[14]</sup>****Definition**

The drugs, which are administered through the nose, act locally as well as systemically.

**Dravyas**

- *Kusta, Ela, Langali, Vacha, Chavya, Chitraka, Cirabilwa churna* each separately or in combination of all pradhama nasya to be given.
- Repeatedly given in between contraction which facilitates *sukha prasava*.

**Mode of action**

The administered medicine in nasal cavity moves up the channels to reach *shringataka Marma*. Then spreads through *murda, netra, shrothra, kanta* and *siramukhas* collects the morbid doshas in *uttamanga* and quickly expels them out.

Once the olfactory area is stimulated, then this stimulation is continued to the parts of Amygdala, hypothalamus, to the parts of basal ganglia and to the brain stem. This controls emotional reactions, visceral somatic, behavioral changes, and endocrinal changes.

**9. Mantra chikitsa<sup>[15]</sup>**

- It is a *daivavyapashraya chikitsa*.
- *Mantra* is "mind tool": "ma" meaning mind and "tra" meaning tool.
- *Mantras* are used to create focus on the repetition of a word or sound, by adorning of stones, herbs or performing *bali, mangala, homa*.
- Various references has been found in classic for *sukha prasava* where mantras like
  1. *Kautuka mangala,*
  2. *Chyavana mantra,*
  3. *Surya mantra,*
  4. *Surasa mantra,*
  5. *Kakarudra- vachana,* etc

**Mode of action<sup>[16]</sup>**

The hormone called beta-endorphin is an opiate or pain-killer that occurs naturally in the body. It is similar in a number of ways to the synthetically produced drugs pethidine and morphine.

As with oxytocin, there are high levels of beta-endorphin in the body during pregnancy, birth and breastfeeding.

Beta-endorphin is suppresses the immune system. Endorphin levels increase toward the end of pregnancy. During labor, endorphin levels rise during each contraction.

**10. Yoga during pregnancy**

Yoga helps in smoothening of mind, refocus the energy and prepare the women psychologically for labor. Various *asanas* create more space in pelvic floor which helps in expulsion of fetus.

Avoiding of inversions, closed twists and back bends that compress the uterus or causes pressure over abdomen reduced circulation to fetus.

**Benefits of yoga and pranayama in pregnancy<sup>[17]</sup>**

- Strengths the pelvic floor muscles and reduces muscle cramps.
- Increases flexibility of spine.
- Relieves physical and mental stress.
- Tones up nervous system and improves emotional stability.
- Increases breathing capacity, stamina and vitality which helps in bearing down during the process of labor.
- Breathing techniques might help to reduce or manage shortness of breath during pregnancy & labor.

**DISCUSSION**

Mother is a joyful journey and complete when she gives birth to a healthy baby. Normal labor is a natural process most of the time does not require any assistance. Induction means stimulation of contractions before the spontaneous onset of labor, with or without ruptured membranes. Augmentation refers to stimulation of spontaneous contractions that are considered inadequate because of failure in descent of fetal head. *Prasava avastha* explained under different stages i.e. *prajayini, prajananakaalaabhimata, asanna prasava, upasthitha prasava, apara patana*. The chanting of auspicious hymns helps to facilitates psychologically pleasant, smooth and easy labor.

**CONCLUSION**

Parturition is a process between maternal and fetal factors which brings happiness to the mother. Before experiencing this pleasure women has to undergo a period of distress and painful uterine contractions when it is prolonged, dangerous for the mother and may also lead to fetal distress and other complications. To overcome these in classics different methods adapted to *garbhanishkramana* process for easy & safe delivery.

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