



Physiological Aspect Of *Prasav*(delivery) W.S.R. To Parturition

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ABSTRACT

Parturition or labor is a physiological event involving a subsequential, integrated set of changes within the myometrium, decidua, and uterine cervix that occur gradually over a period of days to weeks. To proceed uterine contraction & dilatation of cervix, cervix shows biochemical connective tissue changes, and all these occurs usually before fetal membrane's rupture. So it can be said that the process of confinement or delivery of fully matured fetus, on completion of normal pregnancy period is called parturition. Ancient *ayurvedic* texts given detail of every step of process of birth, with month wise growth description and parturition. In ayurvedic context (in *shaarir sthan*, *acharya charak* and *sushrut* both) explained about the period of delivery (*prasav kaal*), process of delivery, various symptoms just prior to delivery (*prajayani*), different stages of labor, concept of involuntary (*aavi*) and voluntary (*pravahan*) contractions. Ancient *acharyas* also explained different methods to induce smooth labor and resolve complication like obstructing labor (*garbhasangha*). In this review article Different physiological aspects of parturition are explained according to ayurvedic and modern context.

Keywords- Parturition, *Prasav*, *Pravahan*, *Aavi* etc.



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INTRODUCTION

Woman is the unique creation of God and female is blessed with the gift of motherhood which is most valuable gift given by god. To bear a kid is irrefutably a definitive dream of each lady. Pregnancy is quite possibly the main occasions in the life of each lady. Entry through the birth channel is the most basic excursion to the embryo and measure of pain and inconvenience faced by a lady is unimaginable. The danger and misery is tremendously expanded when labor is delayed and the mother faces anguishing pain there is nervousness and fear of operative interventions. So to limit this and to get a solid kid appropriate information on cycle of labor is basic. Remembering every one of these points, our *Acharyas* have depicted the *Masanumasika*

Garbhini Paricharya (Monthly antenatal care)) from the first day of conception and *Prasav paricharya* (intranatal care) till labor. Pregnancy particularly during course of labor is the most critical stage. As *Acharya Kashyapa* has portrayed this as "when a ladies approaches labor at each second there is fear of death to the mother so it is said that her one leg lies in this *loka* and one in *Yamaloka*". So to facilitate her at this point of time comprehension of *Prasava prakriya* ((intranatal care) is fundamental to give appropriate consideration and the executives during this basic period of life. The convenient mediation prescriptions, management of complexities, all relies upon the appropriate information on cycle of labor.

AIMS AND OBJECTIVES

- To study about the concept of *Prasava* (delivery) and its importance.
- To study the mechanism of labor described in various *Ayurvedic* texts.
- To prove it is more comprehensive and scientific.

Causes of onset of Labor ¹

All the *acharyas* had mentioned the "*Apaan vayu*" as the cause of excretion of fetus, but when thinking about cause of initiation of labor, five factors are mainly responsible for the onset of labor.

1. *Kalaprakarsha* (time factor)

After a specific period of gestation, changes necessary for labor occur in body, such as estrogen inactivated due to conjugation becomes free and sensitizes myometrium for the action of pitocin, thus helps in myometrium stimulation. Actomyocine also gets optimum deposition and starts contraction of myometrial fibres. Uterus attaining its maximum distension starts contraction. All these changes occur after a specified period.

2. *Nadivibandha mukti* (detachment of *nadivibandha*)

Nadi word denotes sensory or motor nerve fibres and umbilical cord. Release or detachment of

nibandha means release of obstruction in their normal functions or detachment of attachments situated between *nadi* and maternal body or uterus. Pitocinase enzyme inhibits the action of pitocin during pregnancy or this enzyme inhibits the myometrial stimulation, a normal function preceding labor this pitocinase disappears allowing the pitocin to act, thus motor fibres of nerves stimulate myometrium, or in other words obstruction in function of nerves (*nadi*) is released. The umbilical cord derives its nourishment from placenta, to which it is attached. As the term approaches infarcts appear at maternal side of placenta which hamper free flow of oxygen causing anoxia to the fetus, a cause of labor. In other words attachments situated inbetween umbilical cord (*rasavahanadi*) or placenta and maternal body or uterus are detached which initiate labor.

3. *Svabhava (nature)*- unknown cause.

4. *Garbha sampurnta (full maturity of fetal parts)*

Changes in the fetus caused due to anoxia, and its hormones initiate labor.

5. *Garbhavasa vairagya (indifferences of fetus from intrauterine stay)*

Generally above mentioned factors operate together only when the fetus is mature and then delivery of full term fetus occurs.

Samanya prasav kala (time period of normal labor)

Acharyas explained about the time period of normal labor.

Different *acharyas* explained different time period of normal labor as below-

- *Acharya Caraka*²- after 8th month upto 10th month.
- *Acharya Sushrut*³- 9th to 12th month.

- *Acharya Vagbhatta*⁴- after 8th month upto 12th month
- *Acharya Kashyap*⁵- 9th and 10th month.
- *Acharya Haarit*⁶- 10th and 11th month
- *Acharya Chakrapani*⁷- 9th and 10th month
- *Acharya Bhavmishra*⁸ and *Yogratnakar*⁹- 9th to 12th month
- **Modern medicine**¹⁰-

From the date of LMP - 280 days

From the date of conception- 266 days

Stages of Labor

On the basis of clinical features, the different stages of labor mentioned in Ayurveda can be explained in the following way.

1. *Prajayini stage*¹¹ (First Stage),

Prasavotsuka is the term given to this stage by *Acharya Bhavmishra*. Feeling of laxity of *kukshi*, (FLANK) release of bonds of *hridaya*(heart) and pain in thighs are main symptoms occur to women at this stage.

The clinical features of *Prajayini* (first stage) are

- *Kukshi Sithilata* (laxity of *Kukshi*)
- *Hridaya Bandhana Mukti* (release of bond of *Hridya*)
- *Jaghana Sula* (pain in thighs)

The same has been communicated by *Bhavamishra* under the phase of "*Prasavotsuka*"¹²(anxious to deliver).

There is no primary connection between maternal *Hridaya (heart)* and *Garbha*(fetus). As the fetus dives down, the mother feels relief from pressure of heart which is named as *Hridayabandhana mukti*. This relief of pressure brings about laxity of *Kukshi*(Flanks) As, it slides further down, the flanks become full thus, she communicates pain in flanks. In modern science following symptoms are seen as Lightening because of sinking of presenting part.

2. *Prajanana Kalabhimata stage*¹³

1st stage of labor

When the woman is likely to deliver shortly it is said as *Prajanana Kalabhimata*, (2nd stage) following features are present at this stage:

- *Gatra Klamata* (tiredness)
- *Mukha Glani* (lack of lusture)
- *Akshi Sithilata* (loosening of eyes)
- *Vaksha Bandhana Mukti* (feeling of release of bondage with chest)
- *Avasramsanam in Kukshi* (pain in groin)
- *Adhogurutvam* (heaviness of lower body)
- *Vankshana-Vasti-Kati-Kukshi-Parsva and Prista Sula* (pain in groin,flanks,urinary bladder,back)
- *Yoneh Prasravanam* (Discharge from vagina)
- *Anannabhilasha* (loss of interest in food)

The relief of bonds of chest, *Avasramsana* of *Kukshi* (pain in groin) and *Adhogurutva* (heaviness in lower part) are the symptoms which appear prior to labor. These resemble the symptoms of *Prajayini* (pre-labor stage). The rest of the symptoms resemble the symptoms of first stage of labor according to modern medicine.

Vagbhatta added few more symptoms under the heading "*Asanna prasava*" to the above. They are *Nisthivika* (tendency to spit repeatedly), *Atipravritti* of *Mootra* (urine) and *Pureesha* (stool), *Toda* (throbbing pain), *Bheda* (piercing), *Sula* (pain) and *Sphurana* (pulsation) of *Yoni*.¹⁴

Acharya Kashyapa has mentioned the same features as others. He has added dilatation of *Yoni* as a sign.¹⁵ as, the labor progresses, the foetus causes pressure on bladder and rectum which leads to increased frequency of micturition and defecation. Subsequently, the labor pains (*Avi*) starts and the *Garbhodaka* (amniotic fluid) flows out.

3. *Upastith prasav* stage¹⁶

3rd stage

In this stage, severe pain in *kati* (waist) & *pristha* (back) occurs, excretion of *purisha* (stool) & *mutra*

(urine) increases. Discharge of *sleshma* from *Yonimukha* (cervical os) also occurs. As per modern medicine, this is the end of first stage and starting of second stage of labor.

4. *Garbha Parivartana* Stage¹⁷

Different symptoms occurs when the foetus descends further & is going to expelled (*parivartana*) are-

- Foetus leaves *hridaya* (heart)
- Foetus descends in lower abdomen and stays at the neck region of bladder.
- Labor pain frequencies and duration increases.
- Feeling of severe compression, tearing pain in the vagina & tiredness are other symptoms added by Acharya Kashyap in this stage.

It this context it refers to internal rotation occurring in pelvis after descent and exaggerated flexion. *Parivartana* can be understood as internal rotation of the vertex, Acharya Bhela has included discharges per vagina in clinical features.

Effect of *aavi* or accouchment force on labor¹⁸ -

As Acharya Kashyap explained-

- The women having normally situated fetus, dilatation of *aparamukha* (cervix uteri) and presence of *aavi* (normal uterine contractions during labor i.e. contraction, relaxation and retraction) along with *grahishula* (seizing like pain arising due to contraction of abdominal wall etc. i.e. secondary force of labor) is very much ready to deliver the fetus.
- In spite of existence of very severe *grahishula* (pain) the women does not get early delivery it means that strongest *grahishula* (pain) cannot effect labor, presence of *aavi* (labour) is must.
- If the *aavis* (labour) are delayed the fetus is troubled it can be understood as weak uterine contraction can delay the labor resulting in asphyxia to the fetus. Acharyas also explained about *pravahan* i.e; bearing down efforts and instructions for *pravahan*.

- Acharya Charaka in *shaarir sthan* 8/40 explained that female attendants should educate the women “do not bear down in the absence of labor pains, because it would be useless (in terms of progress of labor).
- One who does it her child becomes abnormal, deformed or afflicted with dyspnea, cough, emaciation and diseases of spleen.
- Acharyas also advised that the bearing down force should be mild initially and forceful at end.
- Sushruta added “when the fetus has slightly descended and the pain is felt in the region of pelvis, groin and neck of urinary bladder, the bearing down efforts should be gentle, when the fetus descends further then stronger, and when the fetus has appeared at the vaginal orifice, then bearing down efforts should be strongest till the fetus has delivered.
- **Visikhantara Pravesanam**

Dalhana defines *Visikhantara* as *Apatyapath*¹⁹. No sooner the foetus descends down, the release of *Nadibandhana* occurs and *Sroni*(pelvis), *Vankshana* (inguinal region), *Vasti*(bladder) *sirah*

Table no. 1- Comparison between different stages of labor²³

S.No.	Name given in Ayurvedic texts	Author	Probable stage of labor according to Modern medicine
1.	<i>Prajayini or prasavotsuka</i>	<i>Sushruta and bhavprakasha</i>	Prelabor stage/ just beginning/premonitory stage
2.	<i>Prajanankalabhimataor Aasanaprasava</i>	<i>Charaka, Vagbhata, Kashyapa</i>	1st stage of labor.
3.	<i>Upasthita Prasava</i>	<i>Sushruta and Bhavaprakasha</i>	End of 1st stage or beginning of 2nd stage
4.	<i>Prajanishyaman Parivartita Garbha</i>	<i>Charaka, Vagbhata and Kashyapa</i>	2nd stage of labor
5.	<i>Apara Patana, Prajata, Prasuta, Sutika</i>	<i>All Acharyas</i>	3rd stage of labor

*sula*9throbbing pain in head) starts. As, it descends furthermore, it enters the *Apatyapatha* (vaginal canal). At this stage, woman has

to be instructed to do *Pravahana* (bearing down) strongly. This stage can be taken as second stage of labor as per the modern science.

5. *Apara Patanam* (expulsion of placenta)

Though expulsion of placenta has been mentioned in all the classics, however, distinct description has been given only by Acharya Charaka, Vagbhata and Kashyapa. Acharya Charaka says that after delivery of foetus, one of the attendants must

inspect carefully that whether placenta is expelled or not²⁰. Vagbhata-I defining normal labor says that delivery of fetus in vertex presentation to happiness followed by expulsion of placenta is normalcy (*Prakriti*)²¹. Acharya Kashyap says that without expulsion of placenta the woman cannot be termed as puerperal women²². So, the process of labor is completed after the expulsion of placenta only, the woman is called *Sutika* (A woman is after the expulsion of placenta) and treated with *Sutika paricharya*. (postnatal care)

support of the pregnant lady:-

Acharyas also used different techniques to make the lady psychologically strong so that she can

Different methods used by acharyas for mental

come up from the stress of delivery and fear of pain.

- Presence of multiparous women who are good hearted, continuously busy in service, possessing strong character, experienced in conducting labor, with basically affectionate in nature, free from grief,
- having good endurance, and capable of making parturient women happy.²⁴
- Along with them there is presence of *brahmanas* possessing knowledge of *atharvaveda* should remain present there.
- At the moment of bearing down efforts (*pravahan-pains*), the attendant should pronounce “delivered, delivered, you are

fortunate, fortunate, you have delivered a male child” having these words the women gets strength due to happiness.²⁵

- Construction of the *sutika gaar* (labour room) with excellence appearance and all facilities may also make the lady happy and calm.
- Chanting of *mantras*.

All these methods might influence posterior pituitary via hypothalamus thus increase amount of posterior pituitary extract which in turn effects uterine contractions. All these methods help in making the women mentally strong and help in bearing the pain²⁶.

DISCUSSION

As Ayurveda is an ancient health science and it has explained every aspect related to life. There is detailed explanation of related to process of labor. There are many methods given which can be used to facilitate the process of parturition and make it easy for both the mother and the physician. As explained methods like chanting of mantras, presence of multiparous women near the pregnant lady in the labor room, words of appreciation said

by those women etc. all the methods which definitely helps the lady in her labor pains. Also there are beautiful explanations given about how the process of labor starts by giving the beautiful example of detachment of fruit. Acharyas also adds up important instructions to be given to the lady in the labor about when to make bearing down efforts and when not to do so and listed what harm can be caused by applying pressure at wrong time.

CONCLUSION

- By all this review, it can be concluded that by having appropriate knowledge about the stages of parturition, proper treatment & intervention can assist to get healthy baby.
- Physiological aspects of parturition provide proper information which ultimately prevent maternal mortality and morbidity by correct intervention & medication.
- It is also concluded that ayurvedic concepts related to labor like stages of labor, methods to assist a smooth delivery, methods for psychological support etc. are very much scientific as described by acharyas.

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