

CLINICAL EVALUATION OF ACTION OF MADHUR AUSHADHI SIDDHA PITCHU ON CERVICAL RIPENING AND EFFACEMENT

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ABSTRACT

As the influence of elderly *primigravida* increasing operative or invasive deliveries are increasing. *Garbhini Paricharya* (antenatal care) plays important role in *Sukhaprasav* (facilitation of mechanism of labour). *Yonimardavata* that is good cervical ripening and effacement as well as good vaginal laxity leads to normal labour process. *Madhur Aushadhi Siddha Tail Pitchu* (tampon) application is advised by *Ashtanga Sangraha in Sharirsthan*. *Pitchu* (tampon) is *sthanik chikitsa* (local medicinal therapy) which mainly acts on vagina and cervix and helps to bring certain changes in cervix. Various *Gunas* of *Taila* helps in *Anulomana* of *Apan Vayu* which helps in cervical ripening, effacement and bringing onset of labour. So its study is important.

Keywords: *Garbhini Paricharya, Pitchu, Yonimardavata, Cervical Ripening, cervical effacement*

INTRODUCTION

Pregnancy and labour are major event in women's reproductive in life. As the incidence of elderly primipara is increasing, the mode of deliveries is changing operative /invasive deliveries are increasing day by day. As there is an increased resistance in passage, normal labour get obstructed resulting in operative procedure. Reducing no. of obstetric complication is one of the national health policy which is under safe motherhood challenge taken by WHO. To overcome this, good obstetric care should be taken as a preventive medicine an-

tenatal care reduces the need desperate invasive measure at time of delivery. *Ashtang Sangraha* has mentioned the goal of *Garbhini Paricharya*:- *Anupghatay* - without maternal & foetal complication, *Paripurnatway*- full term/full mature foetus, *Sukhaprasavay-Vyapadrahitam, Swasthyautpadakam, Anukulvedniyam*.

Cervical dilatation & vaginal, perineal stretching plays major role in normal labour process. as unripe cervix fails to dilate easily and effacement get affected. In *Gharbhini Pa-*

richarya internal as well as external application of *Sneha* (oil) is mentioned^{2,3}. *Ashtang Sangraha* has described various local applications like *yoni Pitchu*, *Abhyang*, *lepa*, exercise in *Garbhini Paricharya*. *Acharya Vagbhata* has included *Yoni Pitchu* in 9 month of pregnancy as *paricharya upkarama and madhur aushadhi sidha tail* has been advised⁴. *Ashtanga Sangraha Sharirsthana 3/11¹(indu tika)* has mentioned the *Madhuraushdhisiddha Taila Pitchu Dharan in Yoni* which causes *Garbhprasutimarga Snehan*.

Pitchu is beneficial for promoting non-vitiation of *Sthanik Vatadosha* and proper tone of *Mamsdhatu* i.e. cervical and vaginal tone is maintained. *Acharya Vagbhata* has included *Bala* (*Sida cardifolia*) in *Madhurskandhat*⁵. *Bala* is *Madhur Rasatmak* and *Madhur Vipaki*, as described in *Dhanvantari nighantu*. By considering the need of *pitchu* and its effect on cervical ripening & effacement will definitely be a step forward for achieving the goal of “*Sukhprasavay*”(facilitation of labour)

AIMS AND OBJECTIVES:

1. To review the literature of *Pitchu*, cervical ripening, its effacement
2. study the effect of *Madhur Aushadhi Siddha Taila Pitchu* on cervical ripening and its effacement

Review of literature

⁶Cervical changes during Parturition, the bringing birth of young, encompasses all physiological processes involving birthing, the prelude to phase 0, the preparation for, phase 1, the process of phase 2, and recovery from phase 3 childbirth.

CERVICAL CHANGES:-

Phase1 of parturition:

The cervical modifications during phase one of Parturition principally involves changes in the connective tissue. These are accompanied by the invasion by inflammatory cells to the extent that the process has been likened to a state of inflammation. Two complementary changes occur to its connective tissues as the cervix softens.

The first change relates to the state of the bundles of collagen fibers that act during most of gestation to provide rigid support. In late gestation there is increase in collagen breakdown and rearrangement of collagen fibre bundles. This process causes decrease in number and size of collagen bundles within the cervix. In this period, there are changes in the relative amount of the various glycosaminoglycans, particularly hyalurinic acid, a compound associated with the capacity of the cervix to retain water.

The second change relates to striking increase in the amount of hyaluronic acid in the cervix with increase in water. There is increase in dermatan sulfate, which is needed for collagen fiber cross linking (Carbol and associates 1985). There is increased production of cytokines that causes infiltration of Leucocytes, which degrade collagen. The result of these changes in cervical thinning, softening, and relaxation, which allow the cervix to initiate dilatation.

Phase 2 of parturition:-

It is synonymous with active labour. The uterine contractions that brings about progressive cervical dilatation and delivery. Phase 2 is divided in three stages.

1. The first stage of labour begins when widely spaced uterine contractions of sufficient frequency, intensity and duration are attained to bring about effacement of cervix up to full dilatation. This is the stage of cervical effacement and dilatation.
2. The second stage of labour begins when dilatation of cervix is complete, and ends with delivery of fetus
3. The third stage of labour is the stage of separation and expulsion of the placenta.

Cervical dystocia:-This is where the cervix fails to dilate during labour, if there are uncoordinated uterine contractions then the failure of cervical dilation may be secondary to this and this should respond to oxytocin. If dystocia continues despite this then the infant will need to be delivered by caesarean section. By considering this, to avoid that at onset of labour cervix should be ripe which helps in effacement of cervix. So study of ripening and effacement is necessary.

CERVICAL RIPENING

As term approaches, multiple factors work together in complex interactions that cause collagen dispersion and the cervix to ripen (clinically become softer). Increases in decorin levels, hyaluronic acid, and physiologic cell death are in part responsible for this remodeling process. As the collagen bundles disperse and lose strength, cytokines, hyaluronic acid, collagenases, and elastase possibly work together to allow effacement. Then, the mechanical forces of uterine contractions extend the elastin and allow dilatation. During dilation, levels of cytokines and hyaluronic acid begin to decrease, which may serve to decrease collagenolytic activity and allow the cervix to begin the process of repairing itself. Cervical

incompetence, preterm delivery, postterm delivery are depend upon proper "ripening" of the cervix to avoid surgical delivery for arrest disorders of the active phase.

Uterine cervix is a unique organ composed predominately of the extracellular matrix proteins, collagen, elastin, and glycosaminoglycans. During pregnancy and labor, this organ is metabolically active, which is rare in adult tissue. The metabolism is under reproductive hormonal control and is more complex than previously appreciated. Smooth muscle cells, which comprise 10-15% of cervical tissue, undergo programmed cell death and play a role in cervical softening. Apoptosis is a genetically timed event and could explain the species-specific length of gestation. The most important contributor to cervical softening, however, is a rearrangement and realignment of the collagen, elastin, and smooth muscle cells, which occurs due to mechanical forces and to a rearrangement of the collagen that occurs as the content of glycosaminoglycans varies in the cervix with time. One form of dermatan sulfate, decorin, may help to separate the collagen fibrils and then open them up. This rearrangement also involves fiber shortening below the critical length for tensile strength, allowing for extensibility of the cervix. Because of its orientation in the cervix, elastin contributes to the ratchet-like mechanism of dilatation. Finally, the cervix undergoes change in two phases--softening, which involves collagen realignment, and dilatation. The proteolytic enzymes in the cervix degrade cross-linked, newly synthesized collagen, and they help activate other enzymes in a cascade. However, the predominant anatomic and physiologic

change in ripening is the rearrangement of collagen.

Effacement of Cervix

The obliteration or taking up of the cervix is the shortening of the cervical canal from a length of about 2 cm to a mere circular orifice with almost paper-thin edges. This process is called as cervical effacement and takes place from above downward. The muscular fibers at about the level of the internal cervical OS are pulled upward, or taken up, in to lower uterine segment, as the condition of the external OS remains temporarily unchanged.

Effacement may be compared with a funneling process in which the whole length of a narrow cylinder is converted into a very obtuse, fairing funnel with a small circular orifice for an outlet. Effacement causes expulsion of the mucus plug as the cervical canal is shortened. Lower uterine segment and the cervix are regions of lesser resistance. During contraction a centrifugal pull is exerted on the cervix leading to distension, a process referred to as cervical dilatation. As the uterine contraction cause pressure on membranes, the hydrostatic action of amniotic sac dilates cervical canal like a wedge. Early rupture of the membranes does retard cervical dilatation. The process of cervical effacement and dilatation causes the formation of the fore bag of the amniotic fluid. Two phases of cervical dilatation are the latent phase and the active phase. The completion of cervical dilatation during the active phase of labour is accomplished by cervical retraction about the presenting part of the fetus. After cervical dilatation, the second stage of labor commences; thereafter, only progressive descent of the presenting fetal part is available to assess the progress of labour.

YONI PITCHU

Charak. Chi. 19/ 46: Pitchu is explained as *Sthula Karpatika*

Ashtang Hridya su. 23/3: *Pitchu* means *Karpasvarti*

Now *Pitchu* is a small tampon of cotton of specific size in which it is covered by gauze piece.

It is made around 6 cm in length and 3 cm in breadth. Thread is tied to *pitchu* for easy handling.

For its action it is generally kept for 3-6 hrs.

Action of *Pitchu*:-

Charak Sharirsthan has mentioned following *Garbhashayamarga Snehanartham* i.e. *Snehana of Apatyapatha* is done by *Taila Pichu*. *Pitchu* also helps to provide *Snehana* to cervical OS and *Garbhashaya*.

Mardavam i.e. softness and smoothness of tissue is done by *Snehana*. *Pitchu* helps in *Mardavam* by its *Dharan Karma* of *Snehana*.

There is no direct reference of *Pitchu* is available, in different *Yonivyapdas*, *Pitchu* is described as treatment procedure.

SNEHAN VICHAR

For the role of *Pitchu Sneha Dravya* is the important factor. For that purpose drug used is *Bala Taila*. Efficacy of *Bala Taila* can be evaluated by knowing *Guna* and *Karmukta* of *Sneha Dravya*.

Pruthvi and *Aap* are *Pradhan Mahabuta* of *Sneha Dravya* which causes oleation.

Qualities of sneha are as follows:-

1. **Drava**:- *Vilodana* means movements and mixing of all things. Togetherness i.e. *Sanghata* of *parmanu* is due to *Drava guna*, which increases strength of that particular part. Water retention in cervical tissue

which causes softening and ripening is mainly due to *drava guna*.

2. **Sukshma:-** Due to *Sukshma Guna Sneha Dravya* can penetrate into minute *Srotasa* can bring out its action easily.
3. **Sara:-** It indicates motility. *Anulomana* of *Vata* and *mala* is due to *Sara guna*. Dilatation of cervix is mainly due to *Sara guna*.
4. **Snigdha:-** *Snigdha Guna* causes softening and oleation of the tissue. Elasticity of vagina, softness of vaginal tissue is due to *klednatva*.
5. **Picchila:-** Togetherness of the particles, smoothness maintained by *Picchila Guna*.

6. **Guru:-** *Vridhhi* and *Bruhana* is due to *Guru Guna*. Heaviness of tissue is due to *Guru Guna*.
7. **Sheeta:-** *Sheeta* i.e. coldness indicates to give strengthen muscular tissue and other structures.
8. **Manda:-** Stagnation of *Sneha Dravya* to increase its action *Manda Guna* is responsible.
9. **Mrudu:-** Meaning sort and smooth. *Vatashamana* is done by *Sneha Dravya* which prevents *Vata* vitiation.

Table 1: Comparison of *Guna of Vata and Sneha*

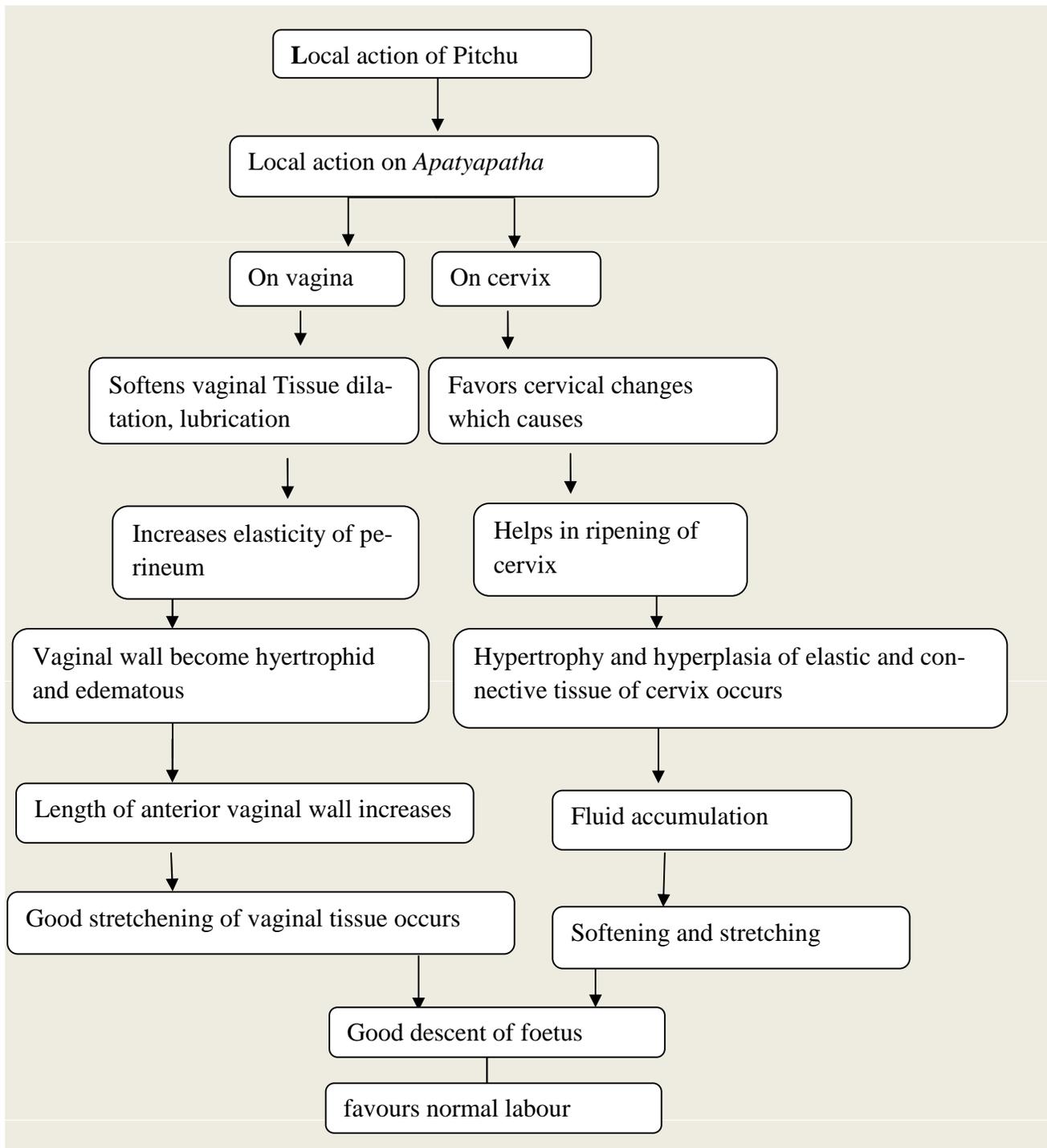
<i>Guna of vata</i>	<i>Guna of Sneha</i>
1. <i>Ruksha</i>	1. <i>Snigdha</i>
2. <i>Laghu</i>	2. <i>Guru</i>
3. <i>Vishada</i>	3. <i>Picchila</i>
4. <i>Chala</i>	4. <i>Manda</i>
5. <i>Vayu, akash</i>	5. <i>Aap, prithvi</i>

DISCUSSION

Snehana Karma: Bring oleation, Softness of tissue, Moisture, Increases water content *Pitchu* provides local *Snehana* to cervix and vaginal tissue. To regulate uterine contraction *Pitchu* act as *Vipracrushta Hetu*. *Sara*, *Snigdha*, *Mrudu guna* helps in cervical effacement

and dilatation. *Snigdha* and *Picchila guna* of *Snehana* helps to increase vaginal elasticity. In all *Guna* of *Vata Ruksha* is *Pradhan Guna*. *Vata* mainly get *vikrut* due to *ruksha guna*. *Shaman* of this *guna* is done by *Snigdha Guna*. *Pitchu* causes local *Snehana* which favors normal labour and helps in *Sukha Prasava*.

Action of Pitchu :-



Possible actions of yoni pitchu-

1. Stabilization of muscle is done due to penetrating power of oil which prevents morbidity of yoni. Muscle strength of va-

gina increases, due to this elasticity and hence stretching capacity increases.

2. *Vishodhana* of *Yoni* (prevention from infection).

3. Ripening of cervix i.e softness is occurs due to retention of water in connective tissue. Pitchu helps in softening of cervical tissue and vaginal tissue also. Due to softening of local area of birth canal which enhances the action of expulsion of fetus easily.
4. Easy stretching of cervix occurs because of softness of tissue.
5. Due to softening of cervix after *Pichu* labour get accelerated. (*Yoni Visfarana*).
6. Locally stretching capacity get increases so there is no trauma to perineal muscles.
7. In second stage of labour there is good relaxation of muscle occurs so descent of head of fetus is easy by sliding movement.
8. unnecessary friction and trauma get prevented due to lubrication of whole birth canal

CONCLUSION

Ripening is clinically represented as softness of cervix. Hence *Pichu* causes ripening without altering uterine contractions in antenatal period. *Pichu* helps in soft consistency and anterior position of cervix. It helps or enhances chances of normal delivery with minimal invasion. From all above statements it can be concluded that *Madhur Aushadhi Siddha Taila Pichu* administration in 9th month can be highly effective to bring about normal delivery by doing cervical ripening and better effacement.

REFERENCES

1. Kaviraj Atridev Gupta, Ashtang Sangraha of Acharya vagbhata: 1st Edition Mumbai, Nirnaya Sagar Mudranalaya,1951 Ashtanga Sangraha Sharirsthana 3/5

2. Vd. Yadhavji Trikamji Acharya, Charak-samhita of Agnivesha elaborated by Charaka and Drudhbala with Ayurved Deepika commentary by Chakrapanidutta, 8th edition Varanasi, Chaukhamba Surabharati Prakashana, 2008, Charak Sharirsthana 8/32
3. Vd. Yadhavji Trikamji Acharya and Ram Acharya, Sushrut Samhita of Sushruta with the Nibandha Sangraha commentary of Shri Dalhanacharya and the Nyayachandrika Panjika of Shri Gayadasacharya on Nidanshthana, 7 th Publication, Varanasi, Chaukhamba Orientalia, 2002, Sushrut. Sharirsthana 10/4
4. Dr. Ganesh Krishna Garade, Sarth Vagbhata of Marathi translation of Vagbhatkri-ta Ashatanghritya,8th edition pune Anmol prkashan,1891
5. Prof. Dr. A. P. Deshpande, Prof. R. R. Javalagekar, Prof. Dr. S. Ranade, Dravyaguna Vidnyana part 1 and 2, 9th edition, pune, Anmol prakashan, 2001
6. Textbook of obstretics, by Dr. D.C. Dutta,2nd Calcutta, New Central Book, Agency, 2000

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