



## Review Article

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### SURGICAL INTERVENTION DURING OBSTRUCTED LABOUR: AN AYURVEDIC OUTLOOK

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Received on: 14/06/16 Revised on: 13/07/16 Accepted on: 01/08/16

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DOI: 10.7897/2277-4343.074148

#### ABSTRACT

Giving birth to a baby is one of the important mile stones in women's life. Episiotomy is the minor surgical procedure practiced during delivery. In fact it has become one of the common practice from the beginning of 20<sup>th</sup> century. An intended surgical incision is far better than irregular perineal tear. It not only cut shorts the second stage of labour but protects the perineum of women for a life time. In evidence-based practice, routine episiotomy is not advised and selective use of episiotomy is recommended. Ayurveda the Indian system of medicine also explains the management of labor in detail. Labor when it gets obstructed, and becomes difficult to remove the fetus out, has its own method of management. The surgical intervention becomes inevitable in such condition. Information regarding instruments used for surgery, preparation of the patient, preoperative, operative and postoperative procedures are explained in detail by Acharya Sushruta the Father of Surgery. The basic definition of Shalya tantra, itself says that its purpose is to remove the foreign bodies and even the extraction of obstructed fetus from the mother's womb. Awareness regarding this surgical intervention explained in Ayurveda is the need of the day for all the obstetricians of Ayurveda.

**Key words:** Ayurveda, Mooladhara Chedhana, Vitapa Chedhana, Episiotomy.

#### INTRODUCTION

Pregnancy is very important and very happy event in woman's life. Giving birth to a child is a challenging for every woman. Healthy mother, a healthy baby without any iatrogenic injuries is the requirement of an obstetrician. Post partum phase can become more suffering when new mother experiences perineal and genital tract trauma as a result of child birth. Hence an intervention becomes inevitable at times.

Episiotomy is a surgically planned incision on the perineum and posterior vaginal wall during second stage of labour with the aim of increasing soft tissue outlet dimensions to help with easier childbirth and prevent perineal lacerations<sup>1</sup>. This intended surgical incision is been practiced as a obstetric procedure more than 200 years ago. The incidence rate of episiotomy is 96.2 % in Western Europe whereas in India it is 40.6 %.

Ayurveda the Science of life, even though deals with herbal medicines, Shalya tantra is a part and parcel of the Ayurveda. The extraction of fetus, especially when it is obstructed, needs the surgical intervention. In prasuti tantra vignana, for treatment

of Mudha garbha shalya chikitsa is been highlighted. The pros and cons of the same is been discussed here.

All the references regarding surgical practice in Ayurvedic science and treatment explained for the obstructed labour mentioned in prasuti tantra is collected from the Ayurvedic scriptures. Those references were analyzed and summarized.

#### DISCUSSION

##### Surgical Procedure is not new for Ayurveda

Acharya Sushruta gives detail information regarding the instruments used for surgery, in the context of Yantravidhi and Shastravacharaniya adhyaya<sup>2</sup>. There are total 101 Yantras (blunt instruments), which are used for extraction of foreign bodies during surgery and 20 Shastras (Sharp instruments) used for performing surgery. There are of 6 major types of Yantras explained, the shapes of these instruments mainly resemble the face of animals and birds. Among all these wide varieties palm of the hand itself is considered as best Yantra and kanka mukha yantra is of prime variety<sup>3</sup>.

**Table 1: Yantras with its indications**

S.N.	Yantra	Special Indications	Other names
1.	Swastika Yantra - 24	Asthi vidhastha shalya nirharana	Lion Forceps, Dental hawk bill forceps, Mouse teeth forceps, Crocodile forceps
2.	Sandansha Yantra - 2	Twak, mansa, sira, snayu gata shalya nirharana	Dissecting Forceps, Epilation forceps
3.	Tala Yantra - 2	Karna, nasa, naadi shalya nirharana	Scoop (single / double)
4.	Nadi Yantra - 20	Srotogata shalya nirharana, Roga darshana, achushana	Speculum, Proctoscope, Cuscos/ Sims speculum, Syringe,
5.	Shalaka Yantra- 28	Ksharoushadha pranidhana Mutra marga shodhana	Catheter, Cautery probe, Ear buds, Doyns Retractor, Dilator, Sponge holder
6.	Upayantra - 25	Miscellaneous	Rope, String, draping, binding material, kidney tray, alkali, stones, Cautery, medicine etc.

Detail information is available regarding Shastras or sharp instruments, The explanation regarding how to hold the particular type of instruments, indication and uses, thickness (shastra dhara), sharpness and tempering (shastra payana) of sharp instruments will describe the richness and quality of surgery present in Ayurveda<sup>4</sup>.

**Table 2: Shastras with its Indications**

Shastra's Sharp Instruments	Utility
Mandalagra Karapatra	Chedhana (excision, cutting) and Lekhana karma (scarifying, scratching)
Vridhipatra Nakha shastra Mudrika Utpala patra Ardha dhara	Chedhana (excision, cutting) and Bhedhana karma (cutting, dividing, separating)
Suchi	Visravana karma (draining out fluids), Sivana (suturing) Vyadhana karma (puncturing, pricking)
Kusha parta Athi mukha Sharari mukha Antarmukha Trikurhaka	Visravana karma (draining out fluids)
Kutharika Vrihimukha Aara Vetasa patra	Vyadhana karma (puncturing, pricking)

**Table 3: Varieties of Suturing materials**

Varieties of Suchi	Suturing areas
Vrinta	Alpa mamsa and sandhi (areas of bones and joints)
Aayata	Mamsala pradesha (muscular areas)
Dhanurvakra	Udara, phala kosha (abdomen and genitalia)

Surgical procedure or Shastra karma is divided into purva karma, pradhana karma and paschat karma. Sushruta acharya explains 8 types of Shastra karma along with its indications in the context of Agropaharaneya adhyaya, Qualities of a surgeon mentioned here are should be courage, quick in his action, should not be confused, shivering or perspiring while putting incision<sup>5</sup>.

**Table 4: Shastra karma with its Indications**

Shastra karma	Indications
Chedana (Incision, Excision, removing)	Bhagandhara, Granthi, Vrana etc
Bhedana (Incision, dividing, separating)	Vidradhi, Tundikeri, Nadivrana etc
Lekhana (Scraping)	Kusta, upajihvika, rohini etc
Vedhana (Puncturing, piercing)	Jalodhara, Mutra vridhi etc
Eshana (Probing)	Nadi vrana
Aharana (Extraction)	Ashmari, Mudha garbha
Visravana (Draining)	Vidhradi
Seevana (Suturing)	Sulekhita vrana

Vellitaka (Continuous suture), Gophanika (Continuous blanket suture), Tunnasevani (Subcuticular suture) and Rujugranthi (Interrupted suture) are the varieties of suturing technique<sup>6</sup>. For suturing purpose threads of murva, guduchi, ashmantaka sutra, Kshouma sutra is been used<sup>7</sup>.

Fumigation of the operating theater should be done using powder of guggulu (*Commiphora mukul* Hook.), agaru (*Aquilaria malaccensis* Lamk.), sarjarasa (*Vateria indica* Linn.) and gaurasarsapa (*Brassica campestris* Linn.) added with lavana, nimba patra (*Azardirachta indica* A.Juss.) and ghee. Bandaging of the postoperative wound, changing the dressing, after every 2<sup>nd</sup> day (sarat, grisma, varsa) or 3<sup>rd</sup> day (hemanta, sisira and vasanta) should be according to the season, dosha involvement and site of operation<sup>8</sup>.

#### Role of Surgical Intervention in Obstructed Labour

The fetus after its complete growth and development, during labour if it is not able to descent down or even after descent is not able to expel out of the uterus, is been obstructed by the

apana vata is termed as the Mudha garbha. Here saamanya prasava paricharya is not enough for the extraction of this obstructed fetus. Acharya vagbhata explains Shalya chikitsa as line of treatment in Mudha garbha chikitsa<sup>9</sup>.

The basic shalya tantra paribhasha itself aims toward removing different foreign bodies from the body along with the Garbha shalya nirharana<sup>10</sup>. The Pregnant lady with delayed stages of labour should be kept Nil by mouth, is the opinion of acharya sushruta<sup>11</sup>. In the commentary arunadatta opines that the lady can be given Madhya internally, this serves the purpose of sedation needed before using different maneuver or instrumentation for fetal extraction. The main idea is possibility of operating her either vaginally or through abdominal route. There is a mention of taking of consent from the adhipati or guardian before conducting surgical intervention<sup>12</sup>. Grabhini stree should be made to lie down over Rakta varna Vrushabha charma (Kelley's pad). The position explained is uttana shayana with Aabhugna sakthi. The hand of the examiner should be lubricated with shalmali or gritha<sup>13</sup>. The mandalagra shastra, anguli shastra, garbha shanku yantra can be

utilized for the surgical intervention. The Vridhi patra shastra should be specially avoided as it is very sharp in nature<sup>14</sup>. The Surgical procedures should be planned according to the stage of labour, part of fetus obstructed, maternal and fetal condition. The intervention for the maternal part (perineum) is for the enlarging of the introits for the easy extraction of the fetus, the intervention on the fetus is for the dead and malformed huge fetus not coming through the vaginal passage. Sushruta and vagbhata have given mudha garbha astagati chikitsa. These are different maneuvers, versions and even the destructive operations for extraction of obstructed and dead fetus. Here the part of the fetus getting obstructed should be cut separated and removed out, perforation of head if it is been the obstructed, grasping at the level of shoulder, chest axilla by hook for pulling and cutting it, the obstructed abdomen should be perforated and eviscerated<sup>23</sup>.

**Table 5: Shastra karma advised in Moodha garbha chikitsa**

Shastra karma <sup>15</sup>	Maneuvers / surgical interventions / destructive operations
Utkarshana	Pulling the fetus upwards
Apakarshana	Dragging the fetus downwards
Sthanapavartana	Rotation / Cephalic version
Udvaratana	Pushing the face upwards
Utkartana	Cutting the perineum
Bhedhana	Incision, dividing, separating
Chedhana	Incision, Excision, removing
Pidana	Compression, perineal support
Rujukarana	Straightening
Darana	Incision

Sushruta acharya even considers that the type of incision should be based on the site of operation. For perineal region tirak chedhana (Horizontal incision) and ardhachandrakruti chedhana is suitable.

Charaka acharya gives six line of treatment of different condition of yoni garbhashaya in the context of yoni vyapad chikitsa<sup>16</sup>. Among them one of the chikitsa siddhanta is "Samvritam Vardhayeet punaha" means the narrow introits should be widened. That may be the procedure of doing chedhana to the yoni in order to remove the obstructed fetus out.

After the Shastra chikitsa, mudha garbha nirharana and apara patana should be done, followed by sthanika abhyanga, yoni sneha pichu dharana. Internal medication is advised for garbhashaya shodhana and artivismarana. In post natal period yoni dhupana is done and the woman is advised to sit over hot oil bag filled with (ushna bala taila). It is the paschat karma of shastra karma.

Acharya Bhava prakasha indeed has given a detail explanation for treatment of obstructed labour<sup>17</sup>. In the context of Mudha garbha chikitsa he explains to do chedhana karma. It may be either Yoni marga chedhana or Garbha anga chedhana of mritha garbha. The dead fetus which is obstructing vaginal out let should be removed part by part by cutting it. This is to be done for the protection of the mother. Further treatment measures for perineal tear which occurred during labour is explained. The area of the perineal tear should be applied with the ointment of equal quantity of Tumbi patra and lodra. Even Yoni gadheekarana vidhi - measures for the tightening of lax vaginal wall is given. For this anointment of paste of palasha and udumbara phala with tila taila and madhu should be done. Acharya Sushruta has elaborately explained six types of process of wound healing, among them last one that is vaikrutaapaham measures which will bring back the normal colour, surface and even the hair over the skin. It includes kashaya, varti, kalka,

sarpi, taila, rasakriya etc.<sup>29</sup> Many medicinal herbs are found very useful in treating wounds. Plants and their extracts have immense potential for the management of wound. The natural agents induce healing and regeneration of the lost tissue. The same mechanism hold to even for episiotomy and caesarian section wound.<sup>30</sup>

**Udara vipatana** – Finally if all possible effort is not successful, acharyas with the opinion to act fast and go for Emergency cesarean section or laparotomy. Sushruta and both the Vagbhata explain the procedure to cut open the abdomen at the level of bladder (supra pubic region) for the purpose of extraction of the baby<sup>24</sup>.

### Mooladhara Chakra and Vitapa Marma

The concept of shadchakra has been derived from the Yogic science. It is a deeper science which leads to ultimate knowledge of the self. The kundalini yoga involves the activation of the prana of the body for enlightenment. Circular form of energy is present in this sushumna kanda of the body itself is shadchakras<sup>18</sup>. They are the site of strength in the body. These six vital areas of the human body are connected with higher illumined centers of the brain. They are Mooladhara, Swadhistana, Manipura, Anahata, Vishudha and agna. The area of perineum, pelvic floor and corresponding coccygeal plexus of nerves is the site of Muladhara chakra. It is the first chakra in spiritual evolution; has control over the entire range of human excretory and sexual functions. It is visualized as a deep red lotus with four petals<sup>19</sup>.

The human body even though panchabhautika in nature, has in it certain vital or vulnerable points where agni and vayu are predominant. They are called marma. There are 107 such vital points are present in our body. Vitapa marma is the vital point in the lower extremities of the body. They are two in number, present in between the vrishana and vankshana pradesha, Injury to this marma is going to cause shandhata and alpa shukrata. It is a Snayu type of marma and Vaikalya kara marma<sup>20</sup>. The predominance of agni and vayu over these areas marks them vital and more prone to injuries that lead to instantaneous death. These points are structurally corresponding to areas where mansa, sira, vayu etc. comes together. Hence, these are given more importance, especially with reference to surgical operations done over that area, for any injury to the marma causes deleterious effects.

The anatomical region of the Vitapa Marma and Mooladhara chakra coincides the region of perineum, the cut taken on this region seems to be Episiotomy.

### Episiotomy as in Allopathic Obstetrics

Episiotomy may be defined as an incision on the perineum (the area of skin between the vagina and the anus) to enlarge the vaginal introits to facilitate the passage of the fetal head and prevent uncontrolled tear of the perineal tissue. Median, Mediolateral, J-shaped and lateral episiotomy are the four types mentioned. Mediolateral type is the frequently used variety.

Normally, an episiotomy is performed when the head is distending the perineum and is about to crown or at least 3-4 cm of the diameter of the head is visible. A Straight proper surgical incision and clean repair is thought to be better compared to the ragged lacerations that may otherwise occur<sup>21</sup>.

Selective use of episiotomy is nowadays gaining popularity. Mothers in labour having the following difficulties are always subjected to an episiotomy.

- Breech delivery
- Operative vaginal deliveries like Forceps delivery, Vacuum extraction, Shoulder dystocia, Fetal distress.

Many studies including the Cochrane Pregnancy and Child birth Database have shown that the routine use of episiotomy may not be justified in modern practice. The results of the first North American randomized controlled trial indicate that episiotomy fails to prevent trauma or relaxation of the pelvic floor; furthermore, in primiparous women it appears to be casually associated with third and fourth degree tears. This procedure should be limited to specific maternal and fetal indications<sup>22</sup>.

### Operative Vaginal Delivery

It refers to any delivery process which is assisted by vaginal operations. Delivery by forceps, ventouse and destructive operations are generally included. Obstetric maneuvers are described under assisted vaginal delivery.

**Forceps** – Instrumental vaginal delivery plays a role in reducing maternal and newborn morbidity. Obstetric forceps is a pair of instruments specially designed to assist extraction of the fetal head and there by accomplishing delivery of the fetus<sup>25</sup>. It could play an increasingly important role where medical facilities are less available. Forceps when used selectively may reduce the need for surgical intervention. Low forceps is used currently in obstetric practice. The obstetric forceps has a special place for assisting delivery in mento anterior positions and the after coming head in a breach presentation. In India today the forceps is used less than what it was 2 decades ago, but if used with care it is a safe instrument that has the potential to lower the incidence of caesarian section.

**Ventouse** – Ventouse extractor is used often as an alternative to the obstetric forceps. It is an instrumental device designed to assist delivery by creating a vacuum between it and the fetal scalp. Vacuum extractor is gaining in popularity because of the use and safety. But it takes longer time to deliver in comparison to the forceps and may not be the instrument of choice when there is fetal distress. However, it scores over the obstetric forceps when the station is a little high, above +2, or the head is not well rotated, or a small rim of the cervix is present<sup>26</sup>.

**Destructive operations** – The destructive operations on the fetus are rare procedures in modern practice. These are designed to diminish the bulk of the fetus so as to facilitate easy delivery through the birth canal<sup>27</sup>. Craniotomy is an operation which consists of perforating the fetal skull and de-bulking it by evacuating the brain. Decapitation and evisceration are very rare and in most centers never performed. Perforation and drainage of a hydrocephalic head are still performed. Cleidotomy is the reduction in the bulk of the shoulder girdle by division of one or both clavicles. Symphysiotomy is an uncommon operation in India but has been extensively done in the African continent. Different obstetric Maneuvers were explained for cases of shoulder dystocia. All maneuvers employed must be documented correctly to avoid litigation.

**Caesarian Section** – It is currently the commonest procedure performed by an obstetrician. It denotes the delivery of the viable fetus, placenta and membranes through an incision in the abdominal wall and the uterine wall. Incidence of caesarian section has climbed high in the last decade in the interests of both mother and the child. Today low transverse incision on the

abdomen and lower segment approach on the uterus are the norm<sup>28</sup>.

### CONCLUSION

Ayurveda, the ancient science of India, is very much applicable and needed for present day lifestyle. It not only deals with Herbal drugs and mineral preparations but also holds well in the surgical procedures. Prasuti tantra, one of the important specialties of Ayurveda describes antenatal and intra-natal regime. When this normal process of delivery becomes obstructed, the management becomes crucial. As the life of mother and fetus are precious, surgical intervention becomes inevitable. Our acharyas have given in detail explanation regarding handling of obstructed labour. Varieties of surgical steps according to the stage of labour, the instruments used, pre and post operative methods explained tells about the hold of Ayurvedic science over surgery. Episiotomy, instrumental vaginal delivery, caesarean sections are the surgical procedure explained during labour. This is mentioned in Allopathic obstetric practice. The Shastra karma followed in mudha garbha chikitsa is the essence of Ayurveda. Vitapa chedhana or Muladhara chedhana is the present day suitable terminology used. Both are equally applicable. Normal delivery, the natural way, is still better because of lower morbidity and mortality and needs to be promoted.

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**Cite this article as:**

G.M. Kavya, Sushila Sharma. Surgical intervention during obstructed labour: An Ayurvedic outlook. Int. J. Res. Ayurveda Pharm. Jul - Aug 2016;7(Suppl 3):15-19 <http://dx.doi.org/10.7897/2277-4343.074148>

Source of support: Nil, Conflict of interest: None Declared

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