

VIGOROUS MASSAGE TO THE UTEROSACRAL LIGAMENT PRIOR TO NDVH RESULTS IN UTERINE DESCENT –A REVIEW

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ABSTRACT

Hysterectomy is the surgical removal of uterus. While performing vaginal hysterectomy, uterus has to be detached from its protective ligaments to ease its descent and thereby its removal but in non-descended uterus, cervix and ligaments tend to remain inside the vagina. Today in the era of minimal invasive surgery, no one can stick to older methods so gynecologists have started to believe that every uterus can be and should be removed vaginally even if there is non-descended uterus having adequate vaginal access, technical skill and good uterine mobility and if the route is not contraindicated. Hence non descended vaginal hysterectomy (NDVH) needs to be considered and seems to be a safe option considering its advantage like fewer complication, early mobilization, shorter hospital stays, quicker recovery and no scar. So in the present paper, how the vigorous massage of Uterosacral ligament (USL) is beneficial for the easy vaginal hysterectomy in non-descended uterus is described from Ayurvedic and Modern point of view.

Keywords: Uterosacral ligament (USL), Non descended vaginal Hysterectomy (NDVH), Vigorous Massage

INTRODUCTION

Hysterectomy is the most common operation performed for gynecological disorders, other than caesarean section. Now-a-days among all major gynecological procedures 70% of these are hysterectomies out of which 25% - 40% of hysterectomies are performed by vaginal route although there is feasibility of 79%.¹ Vaginal Hysterectomy is a technique that has already been introduced and performed from centuries ago but was limited for the prolapsed uterus only. NDVH is basically similar to vaginal hysterectomy but for NDVH, there is absence of descent, the cervix remains inside the vagina. It is now time for the gynecologist to master the vaginal route operation for the removal of

non-descended uterus as NDVH offers the advantages of fewer complications, faster return to normal activities, shorter hospitalization, less operative and postoperative morbidity.

The Uterosacral ligaments are the condensation of the pelvic cellular tissues that lie at a lower level and within the level of the uterosacral folds. They form the chief support of the Uterus and sling the uterus and vagina up at normal position. By their tone they also tend to pull back the cervix and thereby antevert the uterus. Anatomically USL is subdivided into 3 parts, 1-distal (cervical) portion is about 2-3 cm in length, 2-Intermediate section is thick and 5cm in

length while, 3-proximal portion is thin about 5-6 cm in length. Surgically useful observations on relatively unattached intermediate section are (i) this section is best seen when under tension; (ii) even at its closest proximity to the ureter (at the junction with the cervical section) it is still at least 2.3-2.7cm from that structure; (iii) medial traction on the intermediate section as might occur with midline plication with the contralateral ligament will also cause its anterior and superior displacement.²

Description of *Peshi* is already given in Ayurvedic classics.^{3,4} It is said that *peshi* is similar to the ligaments which hold the pelvic organs in their proper position.⁵

Considering the above facts, we have decided to study vigorous massage of the uterosacral ligaments, especially the left uterosacral ligament (USL), for approximately 30 seconds results in a further descensus of the cervix of approximately 2 to 3 cm.⁶

MATERIALS AND METHODS:

Prerequisites for Hysterectomy through vaginal route are –1. Uterine size should not be more than 16 weeks, 2. Adequate vaginal access, 3 Good uterine mobility

INCLUSION CRITERIA:

Large uterus upto 16 weeks size due to Fibroid uterus, Adenomyosis, Endometrial hyperplasia without any descent of uterus.

EXCLUSION CRITERIA:

1. Patients with severely restricted uterine mobility due to suspected dense adhesions
2. Utero-vaginal prolapse
3. Complex adnexal mass
4. Previous history of two or more caesarean section
5. Suspicion of malignancy

ASSESSMENT CRITERIA:

1. Placement of vulsellum for applying traction on the cervix can document the degree of descensus.⁶

2. The distance between the cervix and the hymenal ring should be measured in centimeters. By applying strong traction on the cervix with vigorous massage on the left Uterosacral ligament, the descensus of the cervix should be measured.

METHODS:

The Patient under anesthesia should be placed in lithotomy position. Vaginal examination should be done to assess the size and the position of the uterus, descent and mobility of the uterus. Uterine dimensions along with fundal height should be assessed before attempting NDVH. Sim's speculum should be introduced, cervix should be held by vulsellum and strong traction should be given on the cervix. If more descensus is desired, strong traction on the cervix with vigorous massage should be given by right index finger to the left uterosacral ligament for approximately 30 seconds. It will result in descensus of the cervix of approximately 2 to 3 cm. After descent of cervix, the vaginal hysterectomy for non-descended uterus can be performed easily.

DISCUSSION

Worldwide trends are expanding towards minimally invasive approach and natural orifice techniques of surgery such as vaginal route, which remain the primary choice. While performing vaginal hysterectomy for non-descended uterus, there is absence of descent and cervix and pedicles remains inside the vagina. Hence, it is beneficial to do vigorous massage to left uterosacral ligament for 30 seconds which results

in descensus of cervix approximately upto 2 to 3 cms. The actual mechanism of action which results in descensus of cervix due to vigorous massage is the breaking, tearing or stretching of the uterosacral ligament. The fascia and ligaments are made up of collagen fibers interlaced with elastin, smooth muscle cells, fibroblasts and vascular structures.⁷ Collagen is a predominant component of the USL. USL had more than 20% smooth muscle cells surrounded by moderately dense collagenous connective tissue.⁸ Collagen is the connective tissue that binds the tissue together while elastin is a structural material that gives elasticity. It means elastin allows the tissues to stretch easily and return to their original length. But due to vigorous massage there is a overstretching of the USL due to which the elastin and collagen fibres reach tensile capacity, weaken and ultimately result in tearing of USL and there is descent of the cervix.

In Ayurveda, it is mentioned that *Abhyanga* which means gentle massage brings *mardavata* (softness) of the organ involved.⁹ It is worthwhile to mention here that characteristics of *Abhyanga* and *Mardana* (vigorous massage) are same.^{10, 11} Uterus is a *mamsaghatit* (muscular) organ so as the uterosacral ligament. Vigorous massage causes *mruduta* (softness) of USL which means there is decrease in hardness and firmness of the USL¹² and also there is mobilization of the USL which results in *shaithilya* (laxity) in USL. As vigorous massage of USL causes expected *shaithilya* which favours descent of the cervix and hence it is easy to perform vaginal hysterectomy in non-descended uterus.

Shroni (Pelvic cavity) is the main seat of the *Apanvayu*.¹³ Due to this *Apanvayu* all organs in the *shroni* remain in their normal position. When this *Apanvayu* gets vitiated (*Vatprakop*), *shaithilya* (laxity/prolapse) in these organs occurs.¹⁴ considering this, it may be concluded that vigorous massage causes *Vatprakop* especially *chal guna* (mobility) of *vata* increases which results in descent of cervix. The explanation for the selection of the left USL is to massage left USL is convenient for the right handed surgeon.

CONCLUSION

Vaginal hysterectomy for non-descended uterus is the natural, safe and feasible method of hysterectomy. To ease NDVH, vigorous massage of the uterosacral ligaments, especially the left uterosacral ligament, for approximately 30 seconds results in a further descensus of the cervix of approximately 2 to 3 cm.

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