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INSTRUMENTATION AND TECHNIQUES

"Kabadi's Stitch": A Novel Reversible, Conservative Method of Treating Utero-Vaginal Prolapse by Cervico-Vaginal Fixation to Immobilize the Prolapse in Elderly, Surgically Unfit Women

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Abstract
"Kabadi's stitch" is a novel, reversible, conservative method of treating utero-vaginal prolapse by cervico-vaginal fixation to immobilize the prolapse in elderly, surgically unfit women. For a long time, vaginal constriction by introital stitch or vaginal wall approximation has been practiced as a conservative method. Unlike colpocleisis, this novel method has the advantage of accessibility of cervix and uterus and more so reversible and very simple to perform.

Keywords Kabadi's stitch · Utero-vaginal prolapse · Conservative prolapse treatment · Reversible

Introduction

Utero-vaginal prolapse is seen in usually postmenopausal woman and more so in lower socio-economic status woman coming to a government hospital. They are usually treated with Mayo- Ward's surgery or by site-specific repair along with vault fixation to the sacrospinous ligament depending on the need of the case. In women unfit for surgery, the available option is pessary or conservative surgery. The problem with pessary is maintenance of hygiene, timely replacement and malignancy though rarely. Elderly woman who may forget to replace these pessaries may develop infections. The conservative surgical options are Lee-fort's colpocleisis and introital stitches by Dr Suhaas Dani and Dr Y S Nandanavaar. Dr Suhas dani [1] reported a series of 11 cases in 1989. He introduced the concept of introital tightening for the first time which is analogous to "Theirsh stitch" for rectal prolapse. Dr Y S Nandanwar [2] and Dr Kamini Dalal have reported a case series of 55 cases of Dani's stitch. With colpocleisis, coitus is not possible and cervix is hidden and uterus is not accessible in future if any problems occur in cervix or uterus. "Kabadi's stitch" has the advantages of fixing the cervix to the vagina and immobilizing the prolapse. The surgery is reversible. Cervix and uterus are accessible for evaluation in future if the need arises unlike colpocleisis.

Kabadi's Stitch

Indications

Kabadi's stitch can be considered in woman with genital/utero-vaginal prolapse in elderly woman who are not desirous of future coitus and unfit for surgery due to medical conditions and high risk of anesthesia. It can also be considered in cases where pessary does not fit snugly in introitus or it slips and falls away.

Prerequisites

Any decubitus ulcers are treated by standard method by reducing the prolapse. A routine pap smear and endometrial thickness assessment may be performed. If the vaginal mucosa is friable, then a course of estriol cream may help in strengthening the vaginal wall. Rule out any uterine, ovarian, adnexal, cervico-vaginal pathology. Carry out

Kabadi's stitch is the name which I would like to be given to this technique. Both two stitch technique and four stitch technique.

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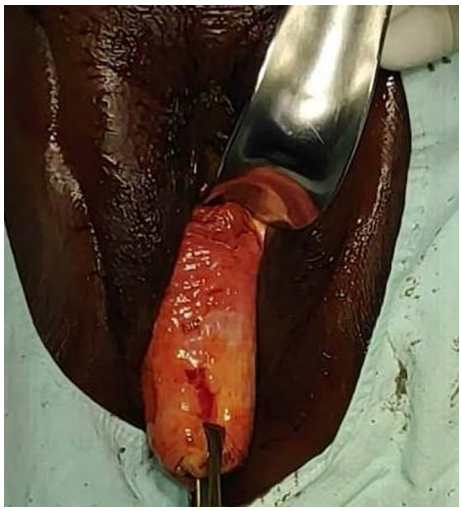

Fig. 1 Pre-operative figure of prolapse

all routine pre-operative care for pelvic surgeries (pre-op picture—Fig. 1).

Procedure

Four-Stitch Technique (Fig. 2) Upper Image

Woman is put in lithotomy position. Parts are painted and draped. Bladder is catheterized. Local infiltration of 2% lignocaine around the anticipated sites of passage of the needle and thread is done. Vaginal wall is held at the level of hymen with allis forceps at four places at 45^0, 135^0, 225^0, 315^0, with urethra as zero degree or at 1.30, 4.30, 7.30, 10.30 like the small hand of the clock showing time. A full thickness bite of vagina including at least one cm of the vaginal mucosal width is taken and continued to take a full thickness bite on the cervix at the corresponding point similar to that of vagina, by moving the needle outside in of the cervical os or inside out of the cervical os. Let the bite on cervix include at least one cm from the external os. Edges of the silk thread are held long by 3–4 in. Stitches are taken at the other three points held by the allis on the vaginal wall. If the cystocele or the rectocele extends up to the edge of the external os of the cervix, then in such a case before taking a bite on the cervix the bladder should be pushed away anteriorly by taking an incision anteriorly on the junction of cervico-vaginal mucosa and posteriorly the rectum should be pushed away by taking an incision posteriorly on the junction of cervico-vaginal mucosa. If the vaginal wall is incised to push the bladder or the bowel, then that incision is closed before securing the cervico-vaginal stitch. Then finally at the end

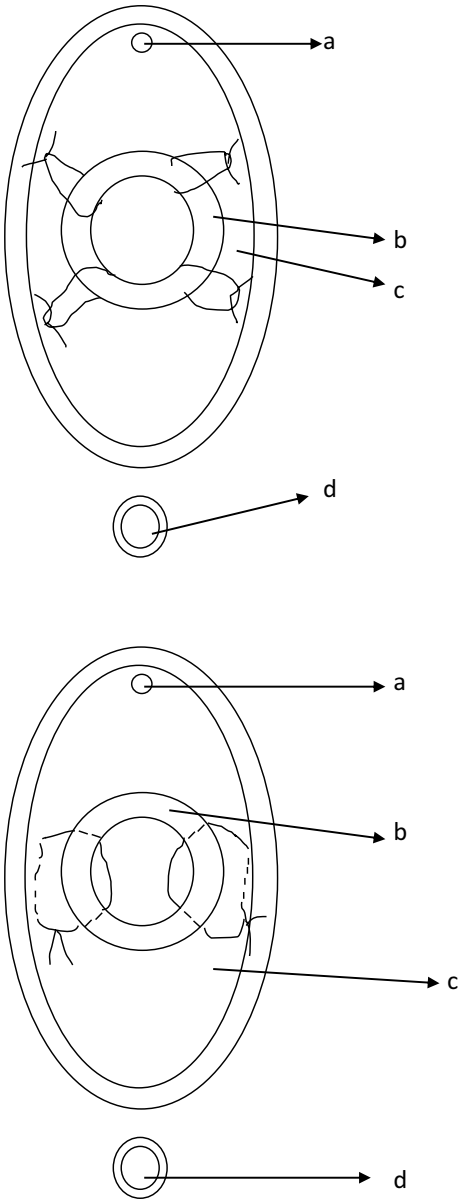

Fig. 2 Line diagram showing Kabadi's four-stitch method (upper image) and Kabadi's two-stitch method (lower image) parts in the fig—a urethra, b cervix, c vagina, d anus

all the four pair of sutures left long are tied. The cervix is fixed to the vaginal wall as the knots are tied. The prolapse gets fixed and immobilized (cervico-vaginal fixation). No 1 silk on round body needle was used. While taking a bite on the firm cervix, cutting needle which will pierce the cervix easily can also be used. Bilateral descending cervical arteries may be ligated if cervix is more vascular or if bleeding is anticipated.

Modification of the Stitch (Two-Stitch Technique) (Fig. 2) Lower Image

Prerequisites and precautions are the same as those of the above technique. Here the two stitches are taken on cervix and vagina. Cervical os is entered outside in at 5 O clock and come out at 2 O clock from the cervix inside out at the level of 1 cm form the external os. Then at the level of the hymen a small Shirodkar needle is fed submucosally in the vaginal mucosa at 5 O clock and come out at 2 O clock from vaginal mucosa. To this Shirodkar needle, thread coming from the cervix is fed and Shirodkar needle is pulled out which brings the black silk submucosally out at 5 O clock. Threads are held long and the procedure is repeated similarly on right side. The cervix is entered at 7 O clock and come out at 10 O clock. Then the Shirodkar needle is fed at 7 O clock in the vaginal wall coming out at 10 O clock submucosally. Then the thread coming from cervix is fed and brought out submucosally in the vagina at 7 O clock. Now the knot is tied on right and left sides which will fix the cervix to the vagina. Here the cervix gets fixed to vagina by two stitches (cervico-vaginal fixation). The advantage of this method is that one can consider putting Mersilene tape here. The chance of the stitch cutting through the vaginal wall is minimized by this two-stitch technique. If the cystocele or rectocele extends up to the cervical os, then the bladder or rectum should be pushed up before taking the bites on the cervix as detailed above.

Post-op care—There is no specific post-op care for this surgery. Routine care is to be taken.

Critical Analysis

The prolapse is fixed that is the cervix is fixed to the vaginal wall (cervico-vaginal fixation) and thus the prolapse is immobilized (Fig. 3).

When compared to colpocleisis in cervico-vaginal fixation, the cervix and hence uterus are available for evaluation in future if the woman develops any problems. There is no undue traction on the urethra or the bladder, and thus possibly there will be no urinary symptoms. The amount of bleeding is very less. The principle and surgical technique is simple and easy to understand and performed under local anesthesia. The duration of surgery is also short. The surgery is reversible unlike colpocleisis. Cutting the suture will release the cervix and mobilize the prolapse.

When compared to introital tightening (Dani's stitch), in cervico-vaginal fixation coitus is not possible. Here cervix is fixed and available for future examination, while in introital tightening it is mobile and partly hidden, but available for future evaluation using a small speculum.

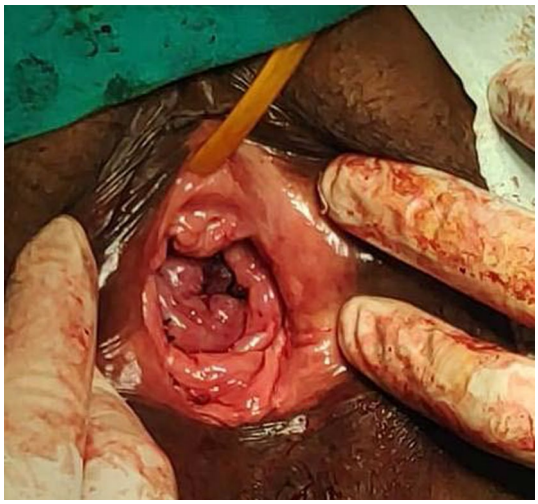

Fig. 3 Post-operative figure of prolapse after Kabadi's stitch (four-stitch method)

The authors experience with cervico-vaginal fixation is limited. Hence, more cases need to be done and followed up long term to test its efficacy.

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Declarations

Conflict of interest There is no conflict of interest involved in this study.

Ethical Approval Ethical clearance was taken for the procedure.

Informed Consent Patient consent was taken for the procedure and for publication if done.

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