

Abdominal Sacro hysteropexy, Uterine preserving surgery for Prolapse: Analysis of 24 cases

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Abstract

To assess the outcome and safety of sacrohysteropexy as uterine preserving surgery for pelvic organ prolapse. The aims of current study were to evaluate outcomes and patients satisfaction, effect on quality of life after procedure while preserving uterus. In recent years, sacrohysteropexy is gaining popularity as a surgical treatment for Utero-Vaginal prolapse. The traditional gold standard surgical treatment for Utero-Vaginal prolapse is vaginal hysterectomy. This study was conducted to assess the result of abdominal sacrohysteropexy as treatment for utero vaginal prolapse. This descriptive case series study was conducted in the department of Gynecology & obstetrics Unit 1, Federal Government polyclinic Hospital from Jan 2017 to Dec 2019. All those women admitted with symptomatic prolapsed uterus with no uterine pathology also willing for uterine conservation were included in the study. After complete evaluation and assessment, abdominal sacrohysteropexy was performed. Results of surgery were analyzed in term of surgery duration, Intraoperative and post-operative complication, need for blood transfusion and hospital stay in all patients. After discharge patients were advised follow-up, short term at 10th day, one month and long term up to one year. Total data of 24 patients were reviewed. Early post-operative procedure success was 100%. Duration of surgery was less than two hours in all patients. Blood loss was negligible in majority of cases. Out of 24 cases, 20 (83.3%) patients did not suffer any complication. Only 3(12.5%) patients had abdominal wound induration and infection. Mean duration of stay in hospital was five days. Up to 98% were satisfied with results of abdominal sacrohysteropexy. Twenty (83.3%) patients complained of backache and weakness on post operation visits. One patient (4.2%) had mesh erosion through vagina with recurrence on long term follow up. Abdominal sacrohysteropexy is considered a safe and effective treatment of uterine prolapse, in women who desire to retain the uterus.

Keywords: Uterovaginal prolapse, abdominal Sacrohysteropexy, Prolene mesh, Uterine preservation, outcome.

Introduction

Utero-vaginal prolapse is common often disabling condition for women of varying age (Diwan *et al*, 2006).

The prevalence of pelvic organ prolapse is not well known or documented. Associated risk factors are advanced age multiparity weightbearing domestic work, chronic constipation low socioeconomic for its occurrence

(Vierhout, 2004). It's rare but young nulliparous unmarried females may develop pelvic organ prolapse with intrinsic collagen abnormality, while multiparous develop pelvic floor disorders after difficult child birth. Intrinsic collagen abnormalities are said to be related to utero-vaginal prolapse particularly in young women (Bai, 2004). Kean et al studied 52 nulliparous women found a decrease in collagen content in women who were less than 30 years of age (Keane *et al*, 1992). Some studies also found a racial factor in its etiology, as pelvic organ prolapse is more frequent among white than black women (Thakar & Stanton, 2002). The etiology of pelvic organ prolapse is complex and multifactorial, current treatment options include pelvic floor muscle exercise, use of pessaries and surgery. Treatment depends on factors such as severity or grade of pelvic organ prolapse, symptoms, patient's general condition and surgeon experience. Aim of treatment is to reduce impact of symptoms and improve quality of life, and respect desire for future fertility in patient (Kovac & Cruikshank, 1993). The traditional surgical treatment of uterovaginal prolapse is vaginal hysterectomy with removal of non-diseased uterus not targeting etiology that may result in increased morbidity (Diwan *et al*, 2006). While deciding to remove a healthy organ, we must consider personal preference, sexual identity, and cultural beliefs. The advantage of uterine preservation includes the maintenance of pelvic anatomy integrity, reduction of intraoperative blood loss, shortened operating time and hospital stay. Uterine preservation appears to contribute positively to patient's self-esteem, body image, confidence, and sexuality (Neuman & Lavy, 2007). Uterine preservation techniques include the Manchester procedure, sacrohysteropexy and anterior abdominal wall cervicopexy (modified and started by Author), tension free vaginal mesh procedures are done both abdominally and vaginally. To conserve the uterus, Sacrohysteropexy (SHP) was introduced for young patients with pelvic organ prolapse in 2007 (Khan, Jalee & Nasrullah, 2016). It also provides more active social life with enhancement in quality. The aims of current study were to evaluate uterine preservation in selected patients, also to assess outcome patient's satisfaction, symptomatic improvement after sacrohysteropexy.

Methodology

This descriptive case series was conducted in the Gynecology Department Unit -1 of Federal Government Polyclinic Islamabad from Jan 2017 to December 2019. All those women admitted in Obst & gynaecology department during study period with diagnosis of uterine prolapse and requiring surgical treatment of prolapse were assessed. Patients willing for uterine preservation were included in the study. These patients were critically evaluated for premalignant and malignant disease of reproductive system. After no contraindication on assessment they were advised to preserve uterus. Applied inclusion criteria was women of any age group, completed family, presenting with pelvic organ prolapse, and having regular menstruation with no history of irregular vaginal bleeding. Patients older in age, having menstrual irregularities or pelvic pathology were excluded. Enrolled patients were

evaluated through history, physical examination, pelvic examination and appropriate investigation. Informed consent was obtained from them, and patients counseled regarding complication related to procedure mesh erosion, infection, fever, damage to bladder and other organs, failure of procedure. But at same time benefits of procedure were explained clearly. After assessment and evaluation, sacrohysteropexy was performed under general anesthesia. A polypropylene mesh (Ethicon), trimmed to appropriate size was placed through a retroperitoneal tunnel and sutured to anterior longitudinal ligaments above and utero-sacral ligament, including part of cervix and posterior surface of uterus below. Prolene No-1 was used for sutures. In some patients tubal ligation was done with consent of patients. Abdominal wound was closed in layers. Post procedure digital vaginal examination was performed to confirm the level of cervix. Data was collected regarding surgery and intra-operative and post-operative complication. Any intra-operative complication like bleeding visceral injury was noted and documented. Results of surgery were analyzed in terms of duration of surgery, requirement of blood transfusion, intra-operative and post-operative complication, patient satisfaction improvement in quality of life and rate of recurrence. Followup was ensured by postoperative visits. SPSS 16 was used for analysis of the results. Patients characteristics were summarized using descriptive statistics for variables (mean \pm standard deviation, minimum, maximum and sample size) and frequency table for categorical variables (numbers and percentages). All the patients were followed for period of six months to one year. They were also advised to report to hospital for any significant problem related to procedure.

Results

Total 2865 gynecological cases were admitted in the unit during study period. There were 210 cases of uterine vaginal prolapse (7.3%). Out of these 210 symptomatic prolapse patients in 24(11.4%) uterine preserving sacrohysteropexy was done. The mean age of women was 50 years with range from 25 to 60 years. In the study, 6(25%) of women were of age 25-40 whereas 18(75%) cases have age 40-60 years.

Table 1: Age distribution of patients

Age of patients	No of patients-24	Percentage
25-40	6	25
40-60	18	75

Table 2: Parity of patients

Parity	No= 24	Percentage
Multipara	21	87.5
Nulliparous	3	12.5

Among 24 patients enrolled in study, all had 2nd degree-4th degree uterovaginal prolapse. None of patients had any intra-operative complication. Regarding the postoperative complication three patients (12.5%) had infection that subsided after treatment. Gape wound was not seen in any patient. Most of patients remained

admitted in wards for 3-5 days, only two patients were discharged on 8th post-operative day. Abdominal stitches were removed on 8th-10th post-operative day in all on followup visit in out-patient department. Recurrence was seen in 01 patient (4.2%). The success of procedure was (95.8%) in our study.

Table 3: Results of Sacrohysteropexy (n=2)

Results	Number	Percentage%
Duration of surgery		
30-60 minutes	20	83.3
60-120 minute	4	16.7
Blood loss during surgery		
<150 ml	21	87.5
>150 ml	3	12.5
Blood transfusion during surgery	Nil	
Post-operative complication	3	12.5
Hospital stay after surgery		
3-5 days	22	91.7
5-8 days	2	8.3
Recurrence	1	4.2

Discussion

Pelvic organ prolapse (POP) is the protrusion into the vagina of pelvic organs including bladder, rectum, uterus, vaginal vault and intestine from their normal anatomical position. The prolapse is due to defect in intra-pelvic organ supporting structure. Pelvic organ prolapse is major health issue in female negatively affecting their quality of life, and is a leading cause of hysterectomy for benign disease (Kow, Goldman & Ridgeway, 2013). In Pakistan vaginal hysterectomy is routinely done for pelvic organ prolapse, but data is not available. In a local study frequency of genital prolapse was found 7.12% in total gynaecological admitted cases (Khursheed, Das & Ghouri, 2013). The most important cause of pelvic floor disorder is related to damage during vaginal birth. Vaginal and difficult delivery damage nerves in pelvic fundus muscle by fetal head pressure resulting in pelvic myoatrophy (Shull *et al*, (1992). Olsen *et al*, reported main causes of pelvic organ prolapse are menopause, previous delivery history, obesity, smoking (Olsen *et al*, 1997). Kim reported that prolapse is caused by various factors that induce the weakening of supporting function of female pelvis, such as genetic factors, surgery history,

neurological damage during childbirth (Kim, 1999). Until now principal treatment for pelvic organ prolapse is surgical correction unless there is contraindication. Non surgical treatment include pelvic floor excersises, pelvic rehabilitation training and different pessaries are used in cases where patients are not fit for surgery, advanced age, or not comfortable with surgical treatment offered (Poma, 2000).

The conventional surgical treatment for prolapse is vaginal hysterectomy with pelvic floor repair. Uterus is removed despite being normal as part of surgery. Moreover removal of uterus fails to address the etiology of prolapse. Up to 40% of patients undergoing vaginal hysterectomy have been reported to present with vaginal vault prolapse (Price, Slack & Jackson, 2010). According to a report by Olsen *et al*, 1 in 11 American women need surgery for pelvic organ prolapse before the age of 80 years, and 30 % of women need reoperation due to prolapse recurrence (Olsen *et al*, 1997) so patients still have risk of another surgery after vaginal hysterectomy. A twofold risk for ovarian function failure is reported in women undergoing hysterectomy as compared to women with retained uterus (Moorman *et al*, 2011). Routine hysterectomy for uterine prolapse is no longer mandatory,

multiple studies support uterine preservation. With increasing awareness larger number of women worldwide desire conservation of uterus. In a study of 220 women with intact uterus under went evaluation for pelvic organ prolapse, 60% wanted to avoid hysterectomy if acceptable alternative was available (Frick *et al*, 2013).

It is still a matter of debate whether to remove the prolapsed uterus as young patients mostly need uterine preservation, Uterine conservation not only maintain support to pelvic floor also preserves future fertility, improve sexual function and wellbeing. It decreases the risk associated with hysterectomy such as large truma,postoperative complication high recurrence and is performed in less time (Khan, Jaleel & Nasrullah, 2016). The earliest uterine conservative surgery performed was Manchester repair (Kow, Goldman & Ridgeway, 2013). This procedure is not being favored nowadays due to its association with subfertility and Obstetrics complications, and due to cervical stenosis cervical screening become difficult. Transvaginal sacrospinous fixation is another option, but because of proximity of sciatic nerve and pudendal vessels and nerve to related ligaments, this surgery may lead to significant buttocks and leg pain and hemorrhage (Api *et al*, 2014).

For many years, hysterectomy was the ultimate solution for symptomatic genital prolapse, apart from the presence or absence of uterine disease and remarkably independent of patient wishes and fertility potential. Now, with the evolution of uterine conservation procedures, women may desire uterine preservation for retaining their fertility. Even when fertility is not concerned, uterine conservative surgery leads to less morbidity than hysterectomy (Rackley, Vasavada & Moore, n.d). Uterine conservation results in satisfactory anatomy and functional outcome with normal vaginal axis. In sacrohysteropexy it involves the basic principle of elevating the uterus and suspending to sacrum using mesh (Hodder, 2006). Several variations of this procedure have been described. Cutner *et al* performed Sacrohysteropexy by passing synthetic mersalene tape through uterosacral ligament to re-suspend the uterus to sacral promontory bilaterally (Cutner, Kearney & Vashisht, 2007). Like Price N used polypropylene bifurcated 'Y' shape mesh, between sacrum and anterior surface of cervix with good results (Price, Slack & Jackson, 2010). Massey F also used polypropylene mesh but sutured the lower end posterior to cervix at the level of uterosacral ligaments (Massey *et al*, 2013). we used a piece of polypropylene mesh in our patients, shaped in length as per requirement it was stitched to the cervix below laterally and posteriorly making inverted "Y" and other end to sacral promontory above. There was no intraoperative complication. Proper preoperative evaluation and and planning help in reducing morbidity in all surgical procedure. Literature reveals studies where extrusion of mesh was reported. In our setting we decided to use mesh for its better results. Various types of synthetic and biological mesh are available, varying in structure and physical properties such as absorbability. In a study performed by Farhat Karims, sacrohysteropexy was performed by using prolene -1 for all patients. The outcome was successful with no complications, and it was

also costeffective (Karim & Mushtaq, 2005) in our study no erosion infection of prolene mesh was observed on short term followup .

The duration of surgery was less than two hours in 90% of patients while reported as one-hour duration by Karim & Mushtaq (2005). At 8 weeks postoperative follow-up 95% of our patients were satisfied with procedure performed with nil intraoperative complication. Pigne A observed intra-operative and post-operative complication in (6.6%) and (13.3%) cases. According to Barranger *et al*, (2003), they calculated patient satisfaction on clinical basis as correction of prolapse,relieved backache,no wound infection, and other postoperative complications.All post-operative complains were dealt with care. In our study satisfaction was strongly because of cure of problem with preservation of uterus and reproductive capacity. Detailed pre-operative counseling, awareness of procedure need to be adressed important point to emphasize is cervical screening regularly. Unfortunately, in our community majority of patients abscond they only visit the facility in case of some complain. Care at home in low socioeconomic group is lacking after surgery, chronic constipation, use of squatting style toilet, heavy household work specially in rural area can be contributing factors for recurrence.Khursheed F in her study found sacrohysterpexy as safe and effective with minimal complication and reduced hospital stay (Khursheed, Das, & Ghouri, 2013). In our study only one patient has recurrence of prolapse with mesh erosion at one-year follow-up. In a study carried out by Barranger *et al*, all women were multiparous, and it was a large review of 30 cases (Barranger, Fritel. & Pigne, 2003). This finding was consistent with our study where 21(87.5%) were multiparous with history of prolonged difficult labor, constipation, weightbearing household works. Only 3 patients(12.5%) were nulliparous, this may be due chronic or congenital weakness of pelvic support. These nulliparous patients did not gave significant family history of pelvic organ prolapse. Uterine conservation seems pertinent in young and nulliparous patients who have not completed family and strongly willing to conserve uterus. Local data revealed that 12 % of patients with pelvic organ prolapse were unmarried, while 16.6% were nulliparous (Tahir *et al*, 2012). In our study all were sexuly active one patient reported at almost nine-month post-surgery with foyal smelling vaginal discharge, on per speculum examination revelead mesh erosion. In five patients bilateral tube ligation was done concomitantly with consent with completed families.

Pregnancy after uterine preservation procedure need clearly to defined and discussed, as it is still controversial issue. Contraceptive method must be advised in all fertile patients who had undergone any reconstructive surgery, also mode of delivery in case of pregnancy. In 257 women with uterine sparing surgery, 24 pregnancies (9.7%) and 16 deliveries (6 caesarean section, 10 vaginal deliveries, 6 abortions) have been reported (Barranger, Fritel & Pigne, 2003). None of our patient reported pregnancy post procedure.

The current study has some limitation in terms of smaller sample size, and one hospital patients data. In addition, our study showed fewer complications, along

acceptance of procedure with great satisfaction. Also relief of symptoms, early recovery was incourging for surgeon and authors.

Conclusion

It is important to consider, uterine disease, age, and wish for uterine preservation. Abdominal sacrohysteropexy is effective and reliable method for utero vaginal prolapse, provided must be done carefully. It maintain vaginal length and axis, sexual function and assurance of their reproductive capability. The success rate was excellent with lessor hospital stay and minimal complications.

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