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Case Series

Uterine-preserving vaginal sacrospinous hysteropexy in pelvic organ prolapse: a case series

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ABSTRACT

Pelvic organ prolapse (POP) is a major cause of morbidity among women worldwide and is commonly managed by hysterectomy. However, uterine-preserving procedures such as vaginal sacrospinous hysteropexy (SSH) are increasingly being adopted, particularly where cultural and psychological considerations make uterine conservation desirable. We report our experience with SSH in Northern Nigeria as a case series. This series involved 26 women with symptomatic POP who underwent SSH between 2015 and 2024 across different locations in Northern Nigeria. The mean age of the women was 40 years and the modal parity was 2, with most women presenting with advanced prolapse (POP-Q stage IV). All women reported protrusion per vaginam as their main complaint. The mean operating time was 31 minutes, mean blood loss was 171 mL, and mean duration of hospital stay was three days. Early complications were recorded in two patients (7.6%): one case each of postoperative bleeding and urinary retention. Recurrence was observed in two patients (7.6%) during follow-up. Outcomes were comparable to those reported in similar studies, with relatively short operative times, low blood loss, and acceptable recurrence rates. Our findings suggest that SSH is a safe, effective, and culturally acceptable option for uterine preservation in women with advanced POP in low-resource settings. Wider use of this technique could improve access to surgical care and enhance the quality of life of affected women, particularly where resources and surgical expertise are limited.

Keywords: Pelvic organ prolapse, Uterine preservation, Sacrospinous hysteropexy, Vaginal surgery

INTRODUCTION

Pelvic organ prolapse (POP) is a common gynaecological condition characterised by the descent of pelvic organs, including the uterus, bladder, and rectum, into or beyond the vaginal canal due to weakening of the pelvic floor support structures.¹ It significantly affects quality of life, causing symptoms such as pelvic pressure, urinary or fecal incontinence, and sexual dysfunction.² While vaginal hysterectomy has traditionally been the mainstay surgical treatment for uterine prolapse, increasing attention is being

given to uterine-preserving procedures such as hysteropexy, particularly in women who prefer to retain their uterus for personal, reproductive, psychological or cultural reasons.³⁻⁵

Hysteropexy, the surgical suspension of the uterus without removal, is indicated for women with symptomatic uterine prolapse who desire uterine preservation, have not completed childbearing, or seek to avoid the potential risks associated with hysterectomy, such as increased operative time, blood loss, and complications related to adjacent

organ injury.³ Uterine preservation has been associated with reduced surgical morbidity, faster recovery, and potentially better pelvic support by maintaining natural anatomic relationships.

Among the various techniques available, SSH has emerged as a well-established and effective vaginal approach.³⁻⁶ This technique involves anchoring the uterus to the sacrospinous ligament, providing durable apical support while avoiding abdominal incisions and mesh-related complications. It is particularly suited for women with stage II-IV uterine prolapse, offering a balance between symptom relief and anatomical preservation.

This case series aims to present our clinical experience with vaginal SSH for uterine preservation in patients with POP. We evaluate the surgical outcomes and recurrence rates to contribute to the growing evidence supporting this uterus-conserving approach in the management of POP.

CASE SERIES

This was a case series of 26 women that had vaginal SSH for symptomatic POP by the same team of surgeons at different facilities in Northern Nigeria from 2015-2024. Women with previous pelvic reconstructive surgery, diagnosis of gynaecological malignancy, pregnancy, need for concurrent hysterectomy and POP-Q staging less than 2 were not included in this case series. Each patient had her biodemographic and clinical information including operative and follow up records recorded. Postoperative complications were assessed through the standardised classification of surgical complications according to Clavien-Dindo.⁷ All women had pelvic protrusion as the main complaint. After history and examination, routine investigations such as Full blood count and differentials, serum electrolyte, serology (HIV and hepatitis B and C) test and cross matching of blood were done for each woman. Counselling was adequately done and consent obtained before the scheduled surgery.

All patients underwent SSH via the vaginal route, following standard operating procedures as described by Schulten et al with slight modification. All procedures were performed by the same surgical team using a uniform surgical technique.⁸ A posterior colpotomy was made longitudinally toward the posterior cervix, followed by extraperitoneal blunt dissection toward the right ischial spine to expose the right sacrospinous ligament. Three delayed absorbable sutures (size 1 polyglactin 910) were placed through the right sacrospinous ligament at least 2 cm medial to the ischial spine. These sutures were then passed through the posterior cervical wall to secure it to the sacrospinous ligament, but were not immediately tied.

At this stage, anterior and/or posterior colporrhaphy was performed as indicated. Only thereafter were the pre-laid fixation sutures tied, allowing the cervix to be positioned approximately 4-6 cm cranial to the level of the vulva toward the sacrospinous ligament. Care was taken to

ensure that the cervix did not abut directly against the sacrospinous ligament; instead, the knot on the ligament side was allowed to slip slightly to prevent necrosis or suture cut-through of the ligament. The colpotomy was then closed with a delayed absorbable suture (size 2-0 polyglactin 910). It, thus, follows closely the surgical procedure of SSH previously described by Schulten et al however, in contrast, no surgical devices were used

Majority 17 (65.4%) of the cases were done in Katsina State (Table 1). The mean age of the patient was 40±16.0 years and modal parity was 2 while mean BMI was 24±3.4 kg/m². All women presented with complaint of protrusion per vaginam and the modal POP-Q staging was 4. The mean operating time was 31 minutes, mean blood loss was 171 ml and mean duration of hospital stay was 3 days. Two women had early complications: post operative bleeding 1 (3.8%) and urinary retention 1 (3.8%) due to pain respectively. Two women (7.6%) had recurrence respectively.

Table 1: Distribution of the cases done across 3 states and the FCT.

State	N	Percentage (%)
FCT	3	11.5
Katsina	17	65.4
Sokoto	2	7.7
Zamfara	4	15.4

Table 2: Educational status of the women.

Level of education	N	Percentage (%)
No formal education	6	23.1
Primary education	11	42.3
Secondary education	9	34.6

DISCUSSION

This case series describes our clinical experience with vaginal SSH for uterine preservation in the management of POP in Northern Nigeria over a nine-year period. The findings demonstrate that SSH is a feasible, safe, and effective uterine-sparing procedure in appropriately selected women, with low perioperative morbidity and a modest recurrence rate.

In this series, the mean age of participants was 40 years, which is younger than in many studies where the average age ranges from 51 to 61 years. This likely reflects the relatively earlier onset of symptomatic POP in our population, possibly due to higher parity, early childbirth, and physically demanding activities, as reported in other Nigerian and Sub-Saharan African studies.⁹⁻¹² Our modal parity of two is lower than expected compared to some studies reporting mean parities of four or more, but this may reflect changing reproductive patterns in urban and semi-urban areas.^{3,5,6}

Most women in our series had advanced disease (modal POP-Q stage IV), which is consistent with other studies in low-resource settings where late presentation is common.^{9,11,12} This late presentation may be attributed to cultural factors, limited awareness of POP, stigma, and limited access to specialist urogynaecological care.

The mean operating time (31 minutes) and estimated blood loss (171mL) in our study are comparable to or slightly better than values reported in similar series. Maher et al reported mean operative times ranging from 30 to 50 minutes and average blood losses between 150 and 300 mL.¹³ The shorter operative time in our series may be due to the uniformity of the surgical team, use of a standardised technique, and avoidance of mesh or synthetic grafts.

The average hospital stay of three days is consistent with reports from similar resource-limited settings, although shorter stays (24-48 hours) are often reported in high-resource contexts.^{5,6,13} Longer hospitalisation in our cohort may reflect institutional protocols, patient preference for postoperative observation, and the need to ensure adequate recovery before discharge.

We recorded a low rate of early complications: postoperative bleeding (3.8%) and urinary retention (3.8%). These figures are within the range reported in literature.^{4,13} The recurrence rate of 7.6% in our series is encouraging, particularly given the high proportion of stage IV prolapse at baseline. Long-term recurrence rates after SSH in the literature vary widely (5-25%),^{5,13,14} with higher rates reported in patients with advanced prolapse or concomitant levator ani muscle avulsion.

The shift toward uterine-preserving approaches in POP surgery is supported by accumulating evidence that hysterectomy is not mandatory for apical support and may be associated with increased morbidity.^{3,4,6,13,14} Women may desire uterine preservation for cultural, psychological, or reproductive reasons.¹⁵ In our setting, this preference is often strong, partly due to sociocultural beliefs about the symbolic value of the uterus, even beyond childbearing age.

Systematic analyses have shown that hysteropexy procedures offer comparable anatomical and functional outcomes to hysterectomy-based repairs, with shorter operative times, less blood loss, and faster recovery.¹³ Our findings align with these observations, suggesting that SSH an appropriate alternative to vaginal hysterectomy for well-selected women in low-resource settings.

Vaginal SSH has particular appeal in resource-limited environments. It avoids the need for abdominal incisions, laparoscopic equipment, or mesh, reducing both cost and technical demands. The technique can be mastered by trained general gynaecologists, as evidenced by our uniform outcomes across multiple secondary and tertiary hospitals. Additionally, the short operating time and minimal blood loss are advantageous in settings where

blood transfusion and advanced anaesthetic support may be limited.

Limitations

Our study is limited by its lack of long-term follow-up beyond the early postoperative period for many patients. Quality-of-life assessments, sexual function outcomes, and detailed anatomical recurrence could not be obtained. Future prospective studies with larger cohorts and longer follow-up will be essential to validate these findings and assess durability of repair.

CONCLUSION

Our experience suggests that vaginal SSH is a safe, effective, and culturally acceptable option for uterine preservation in women with advanced POP in Northern Nigeria. It offers low perioperative morbidity, acceptable recurrence rates, and high applicability in low-resource settings. Wider adoption of SSH, coupled with earlier diagnosis and intervention, could improve the quality of life for many women affected by POP in similar environments.

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