

Manchester - Fothergill procedure for treatment of recurrence procidentia in young nulliparous woman: A case report

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SUMMARY

Procidentia is uncommon condition altering quality of life of young and nulliparous women. Its management poses significant dilemma and challenges as its associated body image, fertility and sexuality issues. Uterine preservation surgery described by Archibald Donald in 1888 known as Manchester –Fothergill procedure seems best option as alternative to vaginal hysterectomy. Despite its increasing popularity among surgeons and patients, robust clinical evidence is needed. We report a case of recurrent procidentia in a young nulliparous woman who had Manchester repair following vaginal sacrospinous hysteropexy. We concluded that Manchester repair is a useful and safe alternative for uterine-preserving technique.

INTRODUCTION

Female pelvic organ prolapse (FPOP) is a quality of life-altering condition which is uncommonly seen among the young and nulliparous.¹ It affects 2% of nulliparous women compared to 50% of multiparous women.² The prevalence ranges from 2-20% among women under 45 and 1.6% between the age 20-39 years.¹ The aetiology is multifactorial namely congenital spinal defects, malnutrition, chronic lung disease or heavy labour work.³ Although the lifetime risk of surgical correction reported for prolapse among women was 11.9%, the incidence of first-time prolapse surgery for young women below 30 years of age was 0.03-1.44%.² The treatment of severe FPOP in young nulliparous women poses significant dilemma and challenges because of its associated fertility, body image and sexuality issues. Furthermore, there have been limited reports in the literature and no guidelines available for its management.³

We reported a case of a 33 years old nulliparous woman with recurrent procidentia who wishes to retain her fertility, thus underwent two uterine-sparing prolapse surgeries which were sacrospinous hysteropexy followed by Manchester-Fothergill repair with left sacrospinous colpexy.

CASE REPORT

NN first presented in 2013 with mass at introitus of five years duration which has failed conservative management. She

had no significant past medical, surgical or family history. She worked as a labourer since the age of 12. She is married for two years and is contemplating pregnancy. On examination, she stood at a height of 154cm and weighed 39.7kg with a BMI of 16.7 which was underweight. Abdomen was soft, not tender and no mass palpable. The cough stress test was negative. There was procidentia with Pelvic Organ Prolapse Quantification system (POP-Q) findings of +3/+6/+6/+4/+2/+7/+3/+7/+7. Ultrasound of the abdomen and pelvis were normal.

After counselling, NN opted for vaginal sacrospinous hysteropexy to preserve her fertility. The transvaginal sacrospinous hysteropexy was performed unilaterally to the right sacrospinous ligament. Her recovery was uneventful and she was discharged well on day three. At two weeks postoperatively, she had a recurrence of procidentia with Ba, Bp and cervix at +7 (POP-Q of +3/+7/+7/+4/+2/+7/+3/+7/+7). NN was subsequently counselled regarding the recurrence of prolapse, its management options, possible risks and complications of further operation. She decided for Manchester repair, pelvic floor repair and sacrospinous colpexy.

Second Surgery

NN had a Manchester-Fothergill repair done followed by anterior and posterior colporrhaphy with left sacrospinous colpexy as described by Maher and colleagues.² Immediate postoperative was unremarkable. At seven months post-surgery, she remained asymptomatic. Her POP-Q assessment however revealed a recurrent cystocele and vault prolapse with Ba to -1 and vault to -3 (POP-Q of -1/-1/-3/2/7/-3/-3/-3). As she was asymptomatic of prolapse symptoms, she opted for conservative management. She was later referred to the reproductive unit as she was keen for pregnancy.

DISCUSSION

The choice of primary procedures depend on factors like age, race, cultural beliefs, body image, coital function and child-bearing potential.¹ The request frequently arises after the women have conducted an internet literature search and become aware of alternative to hysterectomy.³ Consensus is growing that the uterus can be preserved in appropriately

This article was accepted: 7 August 2017

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Fig. 1: Translabial tomographic (3D/4D) ultrasound imaging of the puborectalis muscle after Manchester repair, illustrating upper limit of mild hiatal ballooning (irreversible overdistension of the levator hiatus) as a predictor of recurrence prolapse following surgery (shown by dotted line).

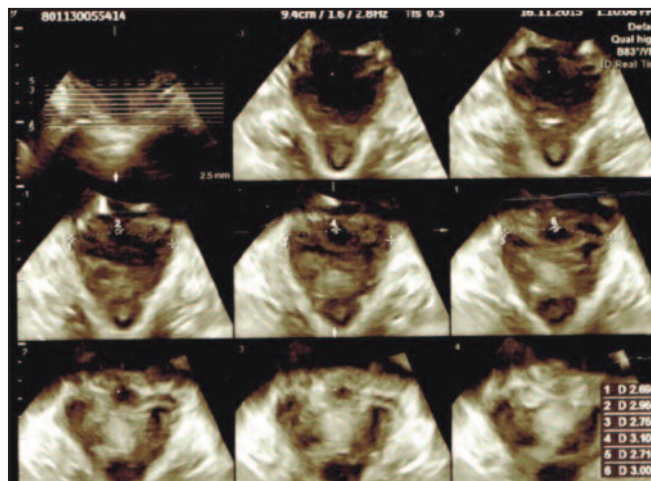


Fig. 2: Translabial tomographic (3D/4D) ultrasound imaging of the puborectalis muscle after Manchester repair, illustrating bilateral levator avulsion as evidence from bilateral levator-urethral gap of more than 2.5cm (as shown in slices 3-5 (+)).

selected women who desire it.¹ Results from comparison trials and prospective studies showed that uterine conservation was feasible, associated with similar outcomes to hysterectomy with shorter operating times. A survey found that 60% of patients would decline hysterectomy if presented with an equally effective outcome as hysterectomy.³ Another study reported 36% and 21% of women favoured uterine sparing surgery despite an equally effective or worsen surgical outcome respectively.¹ As Madam NN is young, sexually active and keen for pregnancy, reconstructive surgery with uterine-sparing procedures was chosen as a surgical remedy for her prolapse.

Uterine preservation procedures correct apical prolapse by attaching the lower uterus or cervix to a supporting structure. It can be divided into abdominal, laparoscopic and vaginal techniques.² Abdominal and laparoscopic procedures are promising, providing similar functional and anatomical results to hysterectomy and sacrocolpopexy.⁴ Vaginal sacrospinous hysteropexy is the most studied technique 3 with which our patient has had. It is comparatively a straightforward procedure requiring lesser dissection hence, shorter training period.¹ It also carries a lower risk of intra-operative complications with reduced blood loss and shorter operative time. It allows preservation of fertility potential with decreased impact on sexual function.³

As NN had a prolapse recurrence, factors like young age, heavy manual labour, advanced stage of prolapse and uterine sparing surgery have been identified as associated risk factors.⁴ Two randomised trials in women with stage II or higher FPOP who underwent sacrospinous hysteropexy versus vaginal hysterectomy showed a higher rate of recurrence among women who underwent hysteropexy at nine and 12 months postoperatively.¹ Other factors namely obesity, postmenopausal status and high parity have also been implicated with recurrence.⁴

Puborectalis avulsion injury and levator hiatal ballooning are two independent risk factors for prolapse and prolapse recurrence following primary repair.⁵ It is an impairment of the pelvic floor as a result of trauma to levator ani muscles during childbirth which is surprisingly present in our patient. Despite being nulliparous, NN had an upper limit of mild hiatal ballooning of 29.88cm² (figure 1) and bilateral levator-urethral gap of more than 2.5cm suggestive of bilateral levator avulsion (figure 2). This was confirmed with vaginal palpation and the findings were in keeping with “micro” and “macrotrauma” of the puborectalis muscle which could be only be explained by congenital causes in her as she is a nullipara.⁵ Another potential trigger for prolapse recurrence includes persistent unrecognised support defects or new defects which occur in a different compartment due to reposition of forces after the initial repair.⁴

Madam NN had Manchester-Fothergill procedure for her second surgery. The procedure is a reasonable uterine-sparing surgical intervention in patients who develop recurrent prolapse after a uterine suspension.¹ It allows women to retain their capacity for childbearing as it is relatively easy, requiring minimal dissection, has short learning curve, carries a lower risk of intra-operative complications with decrease blood loss and operative time. However, it is associated with subfertility, increase in pregnancy loss and preterm delivery.² The pregnancy rate in women after Manchester repair was 33% compared with 66% after a uterine suspension procedure.¹ With the advent of modern ultrasonography, evaluation of cervix may facilitate diagnosis, hence reduce the risk of preterm delivery in women following Manchester procedures. However, the role of prophylactic cerclage in these patients has not been well established and most experts recommended caesarean section as mode of delivery.³ Approximately 10-33% of women who had Manchester procedure had recurrent prolapse and 10-20% of them require additional surgery. Nevertheless, this may be delayed to allow for potential conception.²

Several studies have investigated the site-specific recurrence with re-operation rates ranging from 2.8% to 9.7%.¹ Our patient had worsening of anterior (Ba at -1) and central compartment prolapse (C at -3) following sacrospinous hysteropexy as the principal surgery. The former finding was in accordance with previous study which reported an increase of 40% risk of anterior compartment prolapse following sacrospinous hysteropexy.³ Hence, future surgical option should take into consideration the optimal anatomical approach for correction of the prolapse sites. A previous Cochrane review concluded that abdominal sacrocolpopexy had lower recurrent vault prolapse, less dyspareunia than transvaginal sacrospinous colpopexy.² Perhaps this would be the next ideal options for our patient. Nevertheless, she needs to be counselled regarding the benefit and risks of abdominal surgery which include a longer operative time, recovery period and an increase in intraoperative blood loss compared to sacrospinous colpopexy.³

CONCLUSION

Uterine-sparing surgery is considered the most appropriate surgical remedy for the young and nulliparous women with severe pelvic organ prolapse. The main reasons include

fertility preservation, female sexuality and body image issues. Manchester-Fothergill procedures with sacrospinous colpopexy is a useful alternative in patient with severe or recurrence pelvic organ prolapse who declined vaginal hysterectomy. As there are controversies with regards to uterine preservation techniques versus hysterectomy, surgeon should be well-versed with the current literatures in order to achieve the best outcome for their patients.

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