

Uterine prolapse — preservation or excision?

Fiona Reid

Abstract

The pathological cause of uterine prolapse is loss of integrity of the uterosacral and cardinal ligament complex and a weakening of the pelvic floor diaphragm. Uterine descent is a consequence rather than the cause of pelvic organ prolapse. However vaginal hysterectomy is an operation which is commonly performed to treat uterine prolapse. Does the uterus need to be removed? The advent of minimally invasive surgical techniques and a shift towards patient centred care is leading surgeons to question the need to remove the uterus. This article examines the facts and evidence behind the debate.

Keywords uterine preservation; uterine prolapse; vaginal hysterectomy

Introduction

In the UK prolapse surgery accounts for 20% of women awaiting major gynaecological surgery. Prolapse becomes more common with age. Hence it is expected that the number of surgical interventions for prolapse will increase as the population ages.

The treatment of pelvic organ prolapse (POP) is an area of medicine which appears intuitive. The majority of treatments are justified through traditional practice rather than scientific evidence. However more rigorous examination of practice reveals significant controversies, these include a lack definition of prolapse, uncertainty about the effectiveness of treatment and controversy with regards to concomitant continence surgery. This is true of vaginal hysterectomy as a treatment for uterine prolapse. In addition to this some women are requesting preservation of their uterus at the time of pelvic organ prolapse (POP) repair. Factors which may influence their desire to avoid hysterectomy include a desire to maintain fertility, a belief that the uterus is important in sexual function, an increase in conservative treatments for menorrhagia such as endometrial ablation and for some women the uterus is a central focus of their femininity hence hysterectomy can have a negative impact on their body image and mental health. In the elderly a desire to avoid hysterectomy may be driven by a fear of major surgery and the length of recuperation.

The technical advances in the equipment available to pelvic floor surgeons may also be driving the move towards uterine preservation. There have been notable improvements in the synthetic material used to reconstruct the damaged connective tissues. Devices to place sutures or mesh, via the vagina, into the arcus tendinous fascia pelvis and sacrospinous ligament with

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accuracy and minimal dissection have been developed. The general trend towards increased sub specialization within Obstetrics and Gynaecology may be improving surgical skills. There have been considerable advances in laparoscopic surgical skills over the last decade which may also be driving this change in practice towards uterine preservation.

In recent years there has been an increased emphasis on evidence-based practice. Urogynaecologists use psychometrically validated instruments to assess the impact of symptoms on the patients quality of life and anatomical outcomes are assessed with standardized tools such as the Pelvic Organ Prolapse Quantification (POP-Q) system. These changes may be leading surgeons to critically re evaluate traditional techniques.

Definition of uterine prolapse

What is uterine prolapse? The National Institute of Health (NIH) define of uterine prolapse as the falling or sliding of the uterus from its normal position in the pelvic cavity into the vaginal canal. Swift performed a study of prolapse in a sample of 477 women seen for annual gynaecologic examinations in the USA. Using the NIH definition of prolapse in Swift's population over 90% of all women have prolapse. This suggests the NIH definition is not clinically useful.

The POP-Q (Pelvic Organ Quantification System) (Figure 1) was first published in 1996 and allows accurate reproducible measurement of prolapse. Compared to the traditional practice of recording prolapse using subjective terms such as large, medium or small this represents a significant advance. However there have been no studies to assess the level of descent within the vagina at which uterine prolapse becomes clinically significant. Is it when the cervix reaches the hymen or at 50% descent of the total vaginal length? Why does one surgeon perform a vaginal hysterectomy when the cervix is 4 cm above the hymen and another to perform only an anterior repair leaving the uterus in situ? Is it the height of the anterior lip of cervix above the hymen or the level of the uterosacral ligaments which is important in determining the need for vaginal hysterectomy?

Pathophysiology of uterine prolapse

The pathological cause of uterine prolapse is loss of integrity of the uterosacral and cardinal ligament complex and a weakening

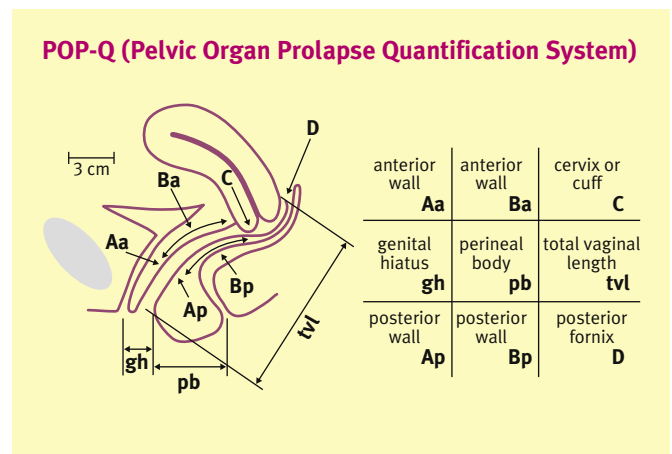


Figure 1

of the pelvic floor diaphragm. The concept that descent of the uterus is a consequence rather than the cause of POP is not new. In 1934 Bonney suggested that the uterus probably had a passive rather than an active role in uterine prolapse hence removing it to treat prolapse does not appear logical. Bonney provided a simple analogy of prolapse using a surgical glove. The eversion of an intussuscepted surgical glove finger by increasing pressure within the glove is analogous to prolapse (Figure 2).

Surgical treatment

The aims of treatment are to restore not only anatomy but also function. This should be achieved with minimal morbidity or side effects and the time to recovery of normal activity should be as short as possible.

Hysterectomy at the time of prolapse surgery may increase blood loss, surgical operating time, length of stay in hospital and the period of convalescence. Up to one in four women will develop a pelvic haematoma following vaginal hysterectomy. Vaginal hysterectomy may cause greater disruption of the neurovascular supply to the pelvic floor thereby exacerbating future prolapse and potentially having a detrimental impact on bladder, bowel or sexual function. Despite this the traditionally vaginal hysterectomy has been the most frequently performed operation for uterine prolapse.

The potential detrimental effects of uterine preservation surgery (UPS) are the subsequent development of uterine or cervical disease. The most significant being endometrial or cervical cancer. Studies have shown the risk of cervical cancer following subtotal hysterectomy is about 0.1% and the incidence of endometrial cancer is approximately 0.2%. It is therefore important to establish that there is no history of abnormal cervical smears and the endometrium should be assessed prior to UPS. In pre menopausal women the presence of fibroids is a relative contra indications however if fertility is to be maintained or a woman is adamant she wishes to retain her uterus then UPS could be performed in combination with myomectomy or following successful embolization of the fibroid.

Uterine preservation surgery falls into two major categories hysteropexy procedures which attempt to restore normal anatomy and preserve function and “obliterative” procedures which close the vaginal lumen.

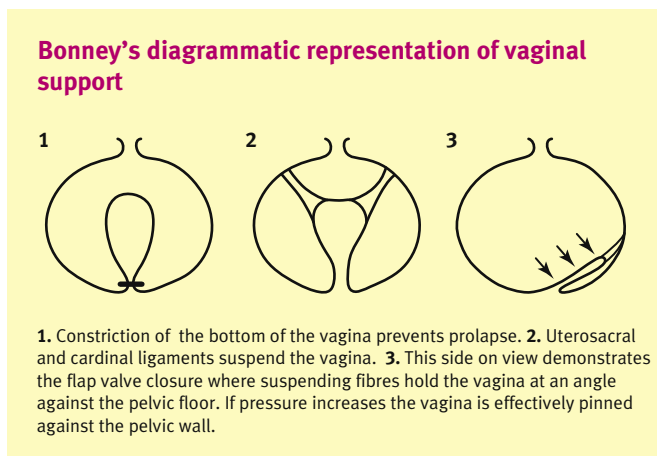


Figure 2

Techniques of uterine preservation surgery (UPS)

The techniques of uterine preservation surgery are not new. One of the earliest operations for uterine prolapse was the Manchester Repair, first described by Donald of Manchester in 1888 and subsequently modified by Fothergill. The procedure involves transvaginal cervical amputation, anterior colporrhaphy and fixation of the uterosacral ligaments anteriorly and a “well-formed” perineorrhaphy. However the Manchester Repair has several potential problems not least the perineorrhaphy which may conceal any laxity of the upper supports but may also result in dyspareunia. The Manchester Repair can also result in stenosis of the cervical canal. In premenopausal women this can cause painful haematometra and in post-menopausal women in the event of post-menopausal bleeding it can make physical assessment of the endometrium very difficult. In women wishing to preserve fertility the Manchester Repair is not recommended because cervical stenosis may cause sub fertility and there is also a theoretical risk of cervical incompetence during pregnancy due to the amputation of the cervix.

The two most common modern techniques are vaginal sacrospinous hysteropexy and abdominal sacrohysteropexy. (In some text these will be described as cervicopexy rather than hysteropexy). Abdominal sacrohysteropexy can be performed using an open or laparoscopic approach.

Abdominal sacrohysteropexy (open or laparoscopic)

This technique was first described by Arthure in 1957. They described suturing the body of the uterus directly to the anterior ligament of the spine at the level of the intervertebral disc between L5 and S1 with two silk sutures. Since then several techniques have been described using a variety of synthetic mesh to attach the cervix and/or the vagina to the anterior spinal ligament. Currently the most commonly reported technique appears to be a variation on that described by van Lindert et al in 1993 however current techniques use type I polypropylene mesh rather than Gore-Tex. This technique involves attaching mesh to the anterior surface of the cervix and passing it through an avascular area of the broad ligament approximately 1 cm above the level of the cervico-uterine junction.

Roovers et al performed a randomized trial of open abdominal sacrohysteropexy and vaginal hysterectomy, with the vault suspended to the uterosacral/cardinal ligament. There were only 41 patients in each arm. They reported a re-operation rate, either performed or planned of 22% in the patients who underwent abdominal surgery and only 5% in those who underwent vaginal surgery. Hence they concluded that vaginal hysterectomy with anterior and/or posterior colporrhaphy is preferable to abdominal sacrocolpopexy with preservation of the uterus as surgical correction in patients with uterine prolapse stages II–IV. However there have also been several case series of both open and laparoscopic sacrohysteropexy which have reported with excellent results albeit the numbers are very small (3–34 subjects) and retrospective chart reviews are known to be associated with higher success rates than a prospective randomized trial. There is considerable variation in surgical techniques between these series and this makes comparison of results very difficult. The reported failure rates range from 0% to 8%.

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