RESEARCH

Management of anterior vaginal prolapse in South Africa – results of a national survey

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Objective. A national survey of the management of anterior vaginal prolapse by gynaecologists and urologists in South Africa.

Methods. 822 questionnaires were sent by post to all registered gynaecologists and urologists in South Africa.

Results. 47 questionnaires were returned undelivered, and 234 (30.2%) were returned completed. The respondents comprised 180 gynaecologists (23.2%) and 54 urologists (7.0%). The POP-Q staging system was most commonly used (37.6%), but 36.3% did not use any recognised system. Urodynamic investigation was done pre-operatively by 8.6% of the gynaecologists and 20.8% of the urologists (p=0.0121, 95% confidence interval (CI) –24.0 - –0.7%). Anterior colporraphy was done by 85.5% of the respondents and vaginal paravaginal repair by 41.9%, and mesh was used by 55.1%. Urologists made use of mesh more often than gynaecologists (p=0.001, 95% CI –43.3 - –16.9%).

Conclusion. The practice of anterior vaginal prolapse repair was fairly standard except for a few reports of pre-operative urodynamics by gynaecologists and high use of synthetic mesh by urologists.

Among parous women, the prevalence of pelvic organ prolapse (POP) is 50%, with an increase with advancing age.[1] The lifetime risk of surgery for urinary incontinence or POP has been estimated at approximately 11%, with 30% needing a second operation within 2 years.[2] Anterior vaginal prolapse is the most common type of POP and can have a significant impact on a woman's quality of life.[3,4] It has been defined as pathological descent of the anterior vaginal wall and overlying bladder base.

The International Continence Society (ICS) standardised the terminology for prolapse grading, and recommended the term 'anterior vaginal prolapse' for what was traditionally known as 'cystocele'.[5] Most women with anterior vaginal prolapse are asymptomatic, symptoms only tending to arise once the leading part of the prolapse extends past the hymeneal ring.[6] Most common symptoms are a poor stream, incomplete emptying of the bladder and an overactive bladder. The main problems surrounding anterior vaginal prolapse are a high failure rate for surgery and hence controversy regarding the best method of treatment. A wide variation of 20 - 70% for recurring prolapse following surgery has been reported.[7,8] Most of these procedures were done without the use of synthetic mesh. Although the use of synthetic mesh may be associated with problems such as *de novo* overactive bladder symptoms and mesh erosion, the incidence of recurrent prolapse at approximately 1 year's follow-up seems to be lower, usually below 20%.[9] The important point is that there is no generally agreed upon standard method for the surgical correction of anterior vaginal prolapse. The aim of this study was therefore to survey the methods used in evaluating and treating this form of prolapse in South Africa.

Materials and methods

The survey aimed to obtain information on routine clinical practice for the surgical treatment of anterior vaginal prolapse by gynaecologists and urologists. A 25-question questionnaire was developed by two gynaecologists with a special interest in urogynaecology with the aid of an expert in the field of medical questionnaires and surveys. A trial run was performed among 10 gynaecologists at Tygerberg Hospital, a tertiary teaching hospital of Stellenbosch University. Comments were evaluated and incorporated into the questionnaire. The questions dealt with clinical assessment (questions 1, 3, 5, 6, 7), conservative therapy (questions 2, 4), type of anaesthetic (question 8), surgical technique and preferences (questions 9 - 20),

surgery for stress urinary incontinence (SUI) (question 21); postoperative management (questions 22 - 24), and demographic information (question 25). Respondents' answers had to be chosen from a specified selection, or a yes/no answer had to be chosen. A total of 822 questionnaires were mailed once only to 659 gynaecologists and 163 urologists in South Africa along with a stamped return envelope and an explanatory covering letter. The names and addresses were retrieved from a database of the College of Medicine of South Africa, and by contacting all hospitals in the country. The respondents remained anonymous. All completed questionnaires were analysed 6 months after mailing and data were entered into a datasheet. Results were summarised using frequencies and percentages. Responses by urologists and gynaecologists were compared using chi-square tests and 95% confidence intervals (CI) for differences in percentages. The 95% CI was expressed as the difference between gynaecologists and urologists. Where urologists had higher percentages than gynaecologists, the CI value was expressed as a negative.

Results

Of the 822 questionnaires sent out, 47 were returned undelivered and 234 (234/775, 30.2%) were received back fully completed. Of these, 180 (23.2%) were completed by gynaecologists and 54 (7.0%) by urologists. Most of the respondents were from the private sector (77% for the gynaecologists and 83% for the urologists). A minority of the responders declared that they had a special interest in urogynaecology (19% of gynaecologists and 22% of urologists). More than 60% of both groups had been practising as a specialist for 10 years or more. No differentiation was made between male or female surgeons.

The POP-Q system was the dominant grading system for prolapse (37.6%), followed by the Baden-Walker system (12.0%). Other systems (not sub-specified) were used by 14.1% of the respondents, but 36.3% did not use any recognised system at all. There was no difference between gynaecologists and urologists with regard to grading systems. Urodynamic investigation was performed pre-operatively by 8.4% of the gynaecologists compared with 20.8% of the urologists (p=0.0121, 95% CI –24.0 - –0.7%) and 11.2% overall. Imaging procedures were used as part of the pre-operative assessment by 27.8% of the respondents, ultrasound for prolapse evaluation (mostly by gynaecologists) and voiding cysto-urethrograms (mostly by urologists) being the most common. Vaginal pessaries were used at times by 50.6% of the gynaecologists but only 16.1% of the urologists (p<0.0001, 95% CI 21.5 - 46.3%). Pelvic floor exercises were prescribed pre-operatively by 68.4% of the respondents and postoperatively by 53.9%. More gynaecologists made use of these excercises (Table I). The indication for surgery was based on both symptoms and signs (not individually delineated in the survey) by 59.8% of the respondents. Only symptoms (23.4%) or signs (3.0%) were used by a minority. There was no difference in this regard between gynaecologists and urologists.

Most clinicians preferred a general anaesthetic for anterior vaginal wall surgery (81.7% gynaecologists, 90.6% urologists, 83.8% together). Hydrodissection prior to surgical incision was used by 59.8% of the gynaecologists and 74.5% of the urologists (p=0.0551, 95% CI –28.7% - –0.7%) (63.1% overall). In 20.7%, a vasoconstrictor was used in the aqua solution. With regard to the preferred surgical procedure, respondents could choose from three types of procedure but were not limited to any one only. Anterior fascial repair was the most commonly performed surgical procedure for anterior vaginal wall prolapse (Table II). The frequency was comparable for gynaecologists and urologists. This was followed by paravaginal repair and, lastly, the use of synthetic mesh for correcting the defect. Synthetic mesh was used more often by urologists (p=0.0001, 95% CI –43.3 - –16.9%) (Table II). During anterior colporraphy, gynaecologists exclusively used the Kelly suture (54%). For the repair itself, two layers using polyglactin 910 (Vicryl; Johnson & Johnson, Brussels, Belgium) 2/0 was the most popular method. The Prolift system (Johnson & Johnson, Brussels, Belgium) was the synthetic mesh most frequently used, particularly by urologists (45.5% v. 68.9%; p=0.0081, 95% CI –39.7 - –7.0%). Gynemesh (Johnson & Johnson, Brussels, Belgium) was next in popularity (40.2% v. 20.0%; p=0.0161, 95% CI 5.4 - 35.0%). Other types of mesh were used by a minority of respondents (4% and less).

Prophylactic antibiotics were given during surgery by 87.4% of gynaecologists and 89.4% of urologists. Cephalosporins were most commonly used. Postoperatively, a vaginal pack was used by 82.1% of gynaecologists and 91.5% of urologists (77.3% together). Almost all respondents inserted a urinary catheter postoperatively (90%), a transurethral catheter being the most common. Only 6% of respondents used a suprapubic catheter. If an additional procedure was done at the time of anterior vaginal repair, it was most often a vaginal hysterectomy and/or a posterior repair for the

Table I. Use of pelvic floor exercises

	Gynaecologists (*N*=180)	Urologists (*N*=54)	*p*-value	95% CI
Pre-operatively	129 (71.8%)	36 (66%)	0.4311	–9.0 - 20.5%
Postoperatively	127 (71.0%)	24 (44.4%)	0.0026	8.5 - 42.2%

Table II. Number of physicians reporting on different procedures for anterior vaginal wall prolapse

Procedure	Gynaecologists (*N*=180)	Urologists (*N*=54)	Total (*N*=234)
Anterior colporraphy	174 (96.7%)	50 (92.6%)	220 (94%)
Paravaginal repair	170 (94.4%)	48 (88.9%)	218 (93.2%)
Repair using synthetic mesh support	88 (48.9%)	41 (75.9%)	129 (55.1%)

gynaecologists (75.7%) and mostly an anti-incontinence sling procedure and/or a posterior repair for the urologists (95.6%). The majority of respondents performed surgery for the correction of SUI concomitant with anterior vaginal prolapse repair (83.3% of gynaecologists and 66.7% of urologists; p=0.0129, 95% CI 2.5 - 30.8%). The trans-obturator sling approach was mostly used by gynaecologists (55.5% v. 29.2%; p=0.0018, 95% CI 10.9 - 41.9%) and the retropubic sling by urologists (45.8% v. 29.3%; p=0.0403, 95% CI –32.7 - 0%). The majority of respondents (69.3%) did not use a prolapse grading system postoperatively to evaluate for the possible recurrence of prolapse or the success of surgery.

Discussion

This was the first national survey on prolapse surgery in South Africa. It was also unique in incorporating both gynaecologists and urologists. The reasoning was that these were the two specialties performing most, if not all, of the pelvic floor prolapse surgery in South Africa. Only 30% of the questionnaires were returned, but the disciplines were approximately evenly represented with regard to the percentage of responses. The exact reason for the low response rate is unclear. The returned completed questionnaires were, however, representative of all the provinces in South Africa. The results therefore provide a balanced reflection of anterior vaginal prolapse in South Africa.

There was considerable variation in the evaluation of patients with anterior vaginal wall prolapse. The POP-Q is currently regarded as the internationally accepted standard for evaluating and grading prolapse.[4] It is a complex system to master, but shows good inter- and intra-observer reliability.[10] Although the POP-Q was the most common system used, it was surprising to note that more than a third of the respondents were not using a recognised classification system at all.

Urodynamic testing is normally recommended for patients with symptoms of mixed urinary incontinence. Occult or symptomatic stress urinary incontinence is a concern in advanced stages of prolapse (III - IV), and a recent study found it to be present in 30% of women presenting with anterior vaginal wall prolapse.[11] Overactive bladder (OAB) symptoms, on the other hand, are also often thought to co-exist with anterior vaginal wall prolapse. It has been suggested that this may be due to descent of the trigone into the anterior vaginal wall prolapse, obstruction of the urethra due to the prolapse, or incomplete voiding with an increased post-void residual volume. Symptoms of mixed urinary incontinence are therefore often encountered in women with anterior vaginal wall prolapse. The majority of respondents in our survey did not perform urodynamic testing. Among those who did, the primary indication was symptoms of mixed urinary incontinence. The most commonly performed special investigation for prolapse evaluation in our study was ultrasound. Pelvic floor ultrasound is an emerging entity and holds much promise. It is readily available, affordable and can objectively confirm the prolapsing structure in the different compartments.

Conservative treatment is generally considered for women with a mild degree of prolapse, those who wish to have more children, frail patients or those unwilling to undergo surgery. It primarily consists of pelvic floor exercises and the use of vaginal pessaries. Pelvic floor exercises have been shown to be effective in the treatment of SUI and mixed urinary incontinence.[12] The role of pelvic floor exercises in the management of existing prolapse has not yet been established, and current weak evidence shows that pelvic floor exercises might prevent progression of anterior vaginal wall prolapse.[13] The majority of respondents in our study favoured pelvic floor exercises as part of pre-operative management. This is sensible in that it may improve the quality of life for these women. However, the popularity of prescribing postoperative pelvic floor exercises cannot be supported by the current literature. Pessaries are another recognised conservative management option for anterior vaginal wall prolapse, but again there is little robust evidence to recommend their use. They do hold clear advantages in certain established circumstances, and might even lead to regression of anterior vaginal wall prolapse.[14] Most of the South African respondents would not normally make use of a pessary, and this was especially noticeable in the responses from the urologists, of whom more than 80% never used them. This might be a reflection of the fact that many clinicians received little or no training in the use of pessaries.

Most respondents preferred a general anaesthetic when performing their surgery, with very few using a local anaesthetic. The potential advantage of using a spinal or local anaesthetic is that prolapse surgery can then be done as a day procedure, a benefit in view of the continual pressure experienced on bed availability. Prophylactic antibiotics and the use of hydrodissection were favoured by most respondents.

The best choice for the surgical treatment of anterior vaginal wall prolapse remains controversial. Current level 1 evidence suggests that the optimal procedure for anterior vaginal repair is an abdominal sacrocolpopexy combined with a Burch colposuspension and a paravaginal repair. This combination is superior to anterior colporraphy or sacrospinous colpofixation with or without vaginal paravaginal repair.[15] Anterior colporraphy is currently the surgical procedure of choice among the majority of respondents for anterior vaginal wall prolapse in South Africa. This finding is similar to a recent UK survey where 77% of respondents also favoured anterior colporraphy.[16] The once popular use of a suburethral plication suture during anterior colporraphy as described by Kelly has recently diminished quite significantly. Evidence has shown that it can result in an increase in voiding dysfunction and even possible urinary incontinence.[17] There was a clear divide among our respondents on the use of this suture. Half of the gynaecologists still used it, but more than 90% of the urologists did not. Among those who used it, the indication was either to cure or to prevent SUI.

The use of synthetic mesh in the anterior compartment is still a controversial topic. Clear indications and evidence of long-term efficacy are lacking. Current level 1 and 2 evidence indicates that the use of absorbable mesh as overlay to anterior colporrhaphy offers a superior outcome compared with colporraphy alone.[18] However, this cannot be extrapolated to non-absorbable mesh. There is currently mostly level 2 and 3 evidence suggesting significant complications in terms of erosion, bleeding and dyspareunia with the use of synthetic meshes.[19] In this survey, the majority of respondents in both disciplines would rarely use synthetic mesh in a primary anterior vaginal wall repair. The gynaecologists in general appeared to be more cautious about using synthetic mesh in the anterior compartment.

It is well known among all practising gynaecologists and urologists that anterior vaginal wall prolapse often co-exists with prolapse in the apical and or posterior vaginal compartments. It is therefore not unusual to combine an anterior vaginal repair with another procedure. This was confirmed in the current survey. The procedures most often performed in combination with an anterior vaginal repair were vaginal hysterectomy and posterior repair. The management of concomitant SUI differed slightly among the respondents. The majority of gynaecologists performed it at the time of anterior vaginal surgery, while a third of the urologists performed it as a second procedure later on. The general consensus is that if both SUI and anterior vaginal prolapse are present, it is important to treat both at the same time. This might offer a superior anatomical outcome compared with anterior colporraphy alone, and it avoids a second procedure.[11] There was also a slight difference between the two disciplines in our survey with regard to choice of continence procedure. The majority of gynaecologists preferred the transobturator midurethral sling, whereas the majority of urologists preferred the retropubic sling. The reason for this is not clear.

In conclusion, this first survey among South African prolapse surgeons has given valuable insight into clinical practice. The information supplied was anonymous and is therefore probably a true reflection of current practice. However, the response rate was unfortunately low. The management of anterior vaginal wall prolapse in South Africa was fairly standard. Of concern were the 36.3% of respondents who did not use a recognised staging system, a low rate of pre-operative urodynamic investigation by gynaecologists (8.4%), and a high rate of use of synthetic mesh by urologists (75.9%), even for primary procedures. The outcomes of current research into synthetic and biological materials are eagerly awaited.

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