

Symptomatic pelvic organ prolapse: Experience at a tertiary urogynaecology clinic

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Background. Pelvic organ prolapse (POP) is a common reason for gynaecological consultation, especially in the elderly. Associated symptoms have been shown to negatively affect bladder, bowel and sexual function, as well as general quality of life. Treatment options include either surgical repair with mesh or native tissue, or conservative management with vaginal pessaries. There is a lack of data regarding POP in South African (SA) women.

Objectives. To determine the demographic characteristics in patients presenting with symptomatic POP to a tertiary urogynaecology clinic, and to compare patients who opt for surgical treatment with those who request vaginal pessary insertion.

Methods. The study was conducted at the urogynaecology clinic at Steve Biko Academic Hospital, Pretoria, SA. Demographic information was recorded after a detailed history, physical examination and completion of a self-administered symptom questionnaire.

Results. A total of 305 patients were included in this study. The mean age was 62 (range 24 - 96) years and the mean vaginal parity was 3.7 (range 0 - 13); 147 patients opted for surgical intervention and 158 for pessary treatment. Cystocele was the most common type of prolapse found on clinical examination. One-quarter of patients were sexually active (25.5%, $n=242$). Awareness and visualisation or feeling of a lump was the most common symptom reported. Age ($p=0.004$) and mean vaginal parity ($p=0.003$) were statistically significant in the pessary group. Finding of a cystocele was significantly greater in patients who opted for pessary insertion ($p=0.005$).

Conclusion. Patients who opt for vaginal pessary insertion are older and more vaginally parous than patients who opt for surgical intervention, and cystocele was statistically more significant in women opting for pessary insertion.

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Pelvic organ prolapse (POP) is a common geriatric medical condition that is often not reported to healthcare providers. It affects up to 50% of parous women over the age of 50, and up to 30% of women attending a gynaecology clinic.^[1] Studies in the Western world estimated that 11% of women will undergo surgery for prolapse or urinary incontinence in their lifetime, and 30% of these women will undergo a repeat operation.^[2] Numerous studies have demonstrated that POP negatively affects urinary, bowel and sexual function, as well as general quality of life, and scores are improved after both pessary use and surgical treatment.^[3,4] It is hypothesised that the improvement in symptoms might be due to anatomical restoration of prolapse in the affected compartment.^[5]

Management of POP includes either surgical intervention or conservative management with the use of vaginal pessaries^[6] or pelvic floor exercises.^[7] Previously it was common practice to offer vaginal pessaries as a treatment option in patients who declined surgery, who were medically unfit for surgery, or those who still wanted to bear children. Recent studies have revealed that the use of vaginal pessaries improves a broad range of prolapse symptoms, and they are therefore an effective and simple treatment option (Fig. 1).^[8,9]



Fig. 1. Vaginal ring pessary with support.

Kapoor *et al.*^[8] evaluated whether the treatment option chosen (vaginal pessaries or surgery) is influenced by the severity of prolapse symptoms in 680 women with symptomatic POP attending a urogynaecology unit. In their study nearly two-thirds of women opted for vaginal pessary treatment ($n=429$) v. 251 who chose to have surgery.^[8] More severe symptoms were reported by the group that chose surgery, as evaluated by the Sheffield Prolapse Symptom questionnaire. There is a paucity of demographic data of patients with POP, and recently there has been a renewed interest in factors influencing choice of treatment in patients with symptomatic POP. This study reviewed patients attending a tertiary urogynaecology clinic with symptomatic

POP, and the aim was to determine basic demographic characteristics and determine factors that dictated treatment choice.

Methods

All patients with symptomatic POP referred for further management to the urogynaecology clinic at Steve Biko Academic Hospital, Pretoria, South Africa (SA) were studied from June 2010 to June 2014. After a detailed history and completion of the ICIQ vaginal symptom (ICIQ-VS) questionnaire,^[10] physical examination of prolapse stage, using the POP quantification staging system (POP-Q) as recommended by the International Continence Society,^[11] was performed. Examination was performed in the dorsal lithotomy position and prolapse stage was recorded on maximal Valsalva manoeuvre. Patients were then offered either surgical treatment or vaginal pessary insertion. In patients opting for surgery, data were captured the day prior to surgery, and in patients opting for pessary intervention, on the day of pessary insertion. We excluded patients who chose to use a pessary as interim relief while awaiting surgery.

Patients completed the ICIQ-VS questionnaire as part of a validation study at the time of this research study. The ICIQ-VS questionnaire is a robust and brief

questionnaire evaluating vaginal symptoms, sexual matters and impact on quality of life. We evaluated responses from nine questions regarding their vaginal symptoms, namely:

1. Are you aware of a dragging pain in your lower abdomen?
2. Are you aware of soreness in your vagina?
3. Do you feel that you have a reduced sensation or feeling in or around your vagina?
4. Do you feel that your vagina is too loose or lax?
5. Are you aware of a lump or bulge in your vagina?
6. Do you feel a lump or bulge coming out of your vagina, so that you can feel it or see it on the outside?
7. Do you have to insert a finger into your vagina to help empty your bowels?
8. Do you have a sex life at present?
9. Overall, how much do vaginal symptoms interfere with your everyday life?

These symptoms were graded on a five-point Likert scale (0 = never, 1 = occasionally, 2 = sometimes, 3 = most of the time, and 4 = all the time), and bothersomeness was evaluated for each question on a scale from 1 to 10.

This study was approved by the University of Pretoria Ethics Committee. Data analysis was performed using SPSS version 23 (IBM Corp., USA). The independent sample *t*-test and the χ^2 test were used for statistical analysis, and *p*-values <0.05 were regarded as statistically significant.

Results

Three hundred and five women were recruited and 243 patients completed the symptom questionnaire. The mean age was 62 (range 24 - 96) years and mean vaginal parity was 3.7 (range 0 - 13). Of the 277 patients for whom there was information about previous surgery, 123 (44.4%) had a previous hysterectomy, and 50 (18.1%) had previous surgery for prolapse (information was missing for 28 patients regarding this history). The demographic characteristics are provided in Table 1. Information regarding sexual habits was completed by 243 patients. Of these, 62 women (25.5%) were sexually active. Thirty-three women (13.6%) were not sexually active because of their vaginal symptoms.

Prolapse stage information was adequately reported in 291 patients. An analysis of prolapse stage revealed that 16 women (5.5%) had stage 1, 129 (44.3%) stage 2, 106 (36.4%) presented with stage 3, and 40 (13.7%) presented with stage 4 prolapse. Anterior compartment prolapse, i.e. cystocele, was the most common dominant

prolapse noted (*n*=231, 79.4%) followed by prolapse of the middle and posterior compartments. With regard to the most common symptoms and bothersome score (243 questionnaires completed): feeling of vaginal looseness was reported in 60.9% (*n*=148) of patients, with a mean bothersome score 5.3 (standard deviation (SD) 3.7); 79.4% (*n*=193) reported awareness of a lump coming down the vagina, bothersome score 8.1 (SD 2.6); 68.7% (*n*=167) reported visualisation or feeling the lump outside the vagina, bothersome score 7.6 (SD 3.3); and 18.9% (*n*=46) needed to insert a finger in the vagina to help empty their bowels, bothersome score 3.1 (SD 3.1). Dragging pain in the lower abdomen was noted in 25.9% (*n*=63) with a bothersome score of 4.3 (SD 3.4). Soreness in the vagina and reduced sensation in and around the vagina were reported by 12.3% (*n*=30) and 34.6% (*n*=84), respectively. With regard to impact on quality of life, the overall mean score was 8.05 (SD 2.28). One hundred and forty-three patients (46.8%) were

black African, 156 (51.1%) white and the remainder were Asian.

When comparing the two procedure groups, there were statistically significant differences with regard to age, vaginal parity and the finding of cystocele (Table 2). Overall the two groups were not statistically different in terms of history of hysterectomy (*p*=0.35), previous prolapse surgery (*p*=0.79), prolapse stage (*p*=0.71) and impact on quality of life (*p*=0.40). Patients who opted for vaginal pessary insertion were older (*p*=0.004), had a higher vaginal parity (*p*=0.003), and finding of cystocele was statistically more common (*p*=0.005).

Fig. 2 shows insertion of ring pessary for POP-Q cystocele stage 3.

Discussion

At our tertiary urogynaecology clinic, pessaries are routinely offered to all women with symptomatic POP. The ring pessary is the most common type used. It is well known that the prevalence of pelvic floor disorders,

Table 1. Demographic characteristics of patients with symptomatic pelvic organ prolapse

Age (years)*	62 (24 - 96)
Vaginal parity*	3.71 (0 - 13)
Prior hysterectomy ^{†‡}	123 (44.4)
Prior procedure for prolapse ^{†‡}	50 (18.1)
Stage of prolapse at presentation [§]	
Stage 1	16 (5.5)
Stage 2	129 (44.3)
Stage 3	106 (36.4)
Stage 4	40 (13.7)
Question 4a: Do you feel that your vagina is too loose or lax? ^{†§}	148 (60.9)
Question 5a: Are you aware of a lump coming down in your vagina? ^{†§}	193 (79.4)
Question 6a: Can you see or feel a lump or bulge on the outside of your vagina? ^{†§}	167 (68.7)

*Data expressed as mean (range).

[†] Data expressed as *n* (%).

[‡] *N*=277 for previous surgery data.

[§] *N*=291 for prolapse stage data.

[¶] *N*=243 for symptom responses.

Table 2. Comparison between pessary and surgery groups

	Pessary group (<i>n</i> =158)	Surgery group (<i>n</i> =147)	<i>p</i> -value
Age (years)*	63.9 (12.1)	59.9 (12.1)	0.004
Vaginal parity*	4 (2.0)	3.3 (1.6)	0.003
Hysterectomy ^{†‡}	68 (24.5)	55 (19.8)	0.354
Previous prolapse surgery ^{†‡}	27 (9.7)	23 (8.3)	0.796
Cystocele [§]	129 (55.8)	102 (44.2)	0.005

* Data expressed as mean (SD).

[†] Data expressed as *n* (%).

[‡] *N*=277 for previous surgery data.

[§] *N*=231 for patients with cystocele.



Fig. 2. Insertion of ring pessary for POP-Q cystocele stage 3.

as well as the risk of undergoing surgery for either POP or urinary incontinence, increases with age.^[12] The average age of prolapse presentation in this study was 62 (range 24 - 96) years, and mean parity was 3.7 (range 0 - 13). Our findings are similar to those reported by Ellerkmann *et al.*^[13] and Burrows *et al.*^[14] i.e. 57.2 (range 23 - 93) years, mean parity 2.2 (range 0 - 9), and 58.8 (SD 12.1) years, median parity of 3.^[13,14] Little is known about the epidemiology and natural history of POP, but recently the 5th International Collaboration on Incontinence found that the peak incidence for prolapse surgery in women occurs between age of 60 and 69 years.^[15] It is plausible that symptoms are not reported earlier because of embarrassment or uncertainty about which healthcare provider to consult.

Vaginal delivery childbirth is considered to be a major risk factor for the development of pelvic floor dysfunction, especially prolapse, with the greatest impact occurring at first delivery. It is postulated that stretch-related injury during the second stage of labour and the use of forceps are the main causes of muscle trauma, and this might be the missing link in understanding the epidemiology of prolapse and incontinence.

Determining reoperation rates after previous POP surgery is an important and indirect tool for assessing success of surgery. Although the reoperation rates vary widely in the literature, 29.2% is a frequently quoted lifetime reoperation rate in a US healthcare system.^[16] In our study 18% reported a previous surgical intervention for prolapse, and a 5-year prospective study of vaginal pessary use for POP reported a previous prolapse surgery rate of 13% ($n=427$).^[17]

When reoperation rate data are considered, it is important to note that there is considerable heterogeneity with regard to definition of success, time frame, use of concomitant mesh and most importantly site-specific recurrence. Of our patients, 48.2% opted for surgery, and it is well known that reoperation rates are higher in tertiary academic units.^[18]

Examining sexual habits in older patients is complex, as there are several factors that impact on sexual health. The prevalence of sexual problems increases with age, and this study found that one-quarter were sexually active (25.6%). While the majority reported sexual inactivity because of other reasons, 13.5% stated that their inactivity was a direct result of the prolapse. Our finding of cystocele being the most common prolapse noted on clinical examination, with the majority presenting with POP-Q stage 2 (44.3%), is similar to that reported by Ellerkmann *et al.*^[13] We used nine questions from the validated ICIQ-VS questionnaire to obtain a comprehensive understanding of vaginal symptoms related to POP. The full questionnaire is in the process of validation for our local population. Awareness of a lump (79.4%) and visualisation or feeling of the lump (68.7%) were the most common symptoms reported, and both were associated with high bothersome scores, i.e. 8.1 and 7.6; these are consistent with the literature.

However, it is surprising that the need to insert a finger to empty the bowels had a mean bothersome score of 3.1. A possible explanation is that patients accept this as a normal habit. There was no difference with regard to severity of symptoms between the two groups.

Of our patients, 51.8% with symptomatic POP opted for pessary insertion at first consultation. These patients were older ($p=0.004$) and had a higher mean vaginal parity ($p=0.003$) than patients choosing surgery. Kapoor *et al.*^[8] compared 680 women who were offered either a pessary or surgical intervention as a treatment option. Nearly two-thirds of women opted for pessary insertion initially, and women choosing pessary were older (66 v. 58 years). They did not report on vaginal parity, and patients in the surgery group had more significant symptoms. Similar to our finding ($p=0.79$), history of previous pelvic floor repair did not reach statistical significance between the two groups ($p=0.33$).^[8]

Conclusion

There is a lack of epidemiological studies evaluating pelvic floor dysfunction in SA.

It is a common gynaecological problem with predominance among the aged. Both surgical and pessary management are effective strategies to improve pelvic floor symptoms, sexual function and body image. The next health and demographic survey for SA should include evaluation of the burden of pelvic floor dysfunction, as there is currently no local information regarding this condition. This is imperative, as the findings will dictate distribution of healthcare resources with appropriately trained pelvic floor clinicians. More data on comparative strategies such as pelvic floor muscle physiotherapy, pessaries and surgery should be a research priority.

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