

Urinary Complication Following Cystocele Repair in Pelvic Organ Prolapse

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Aims: Pelvic organ prolapse is a common condition in our country which affects the quality of life of many women. After vaginal operations for genital prolapse, there is increased chance of urinary tract infections, retention of urine and re-catheterization. The objective of this study is to evaluate women with cystocele in terms of clinical profile, different modalities of treatment and the complication following repair.

Methods: It is a descriptive study carried out amongst 80 cases of cystocele irrespective of associated uterine descent and stress incontinence of urine in College of Medical Sciences – Teaching Hospital, Nepal from 1/9/2011 to 30/10/2013.

Results: During the study, 80 women with cystocele were enrolled. Majority of the women (66.3%, n =53) with cystocele were within 15 to 45 years and 53.8% (n=43) of them had parity beyond 5. Among these women, 51.4% (n=41) had second degree cystocele and 23.8% (n=19) had stress urinary incontinence. Majority of the women (58.8%, n=40) underwent vaginal hysterectomy with pelvic floor repair. Following surgery, the most common complication was urinary tract infection (14.7%, n = 10).

Conclusions: In this study, majority of the cases with cystocele were in the reproductive age with parity beyond 5 while maximum number of the women with cystocele had associated third degree uterocervical descent. Urinary tract infection was the commonest complication following surgical treatment followed by retention of urine.

Keywords: cystocele, pelvic organ prolapse, stress urinary incontinence, urinary tract infection.

INTRODUCTION

Pelvic Organ Prolapse (POP) is a significant public health problem in Nepal.¹ It is characterized by downward displacement of structures that are normally located at the level of or adjacent to the vaginal vault. POP has a lifetime prevalence risk of 30-50% and its incidence increases with age.²⁻⁴ In Nepal, the prevalence of POP is quoted to be as high as 18-25%.⁵ Various studies show that more than 6,00,000 women in Nepal suffer from POP and 2,00,000 women require pelvic surgery for genital prolapse.⁶

Cystocele is a descent of the upper two-thirds of the anterior vaginal wall. Most common cause for cystocele is the transverse apical defect in the pubocervical septum which forms the floor of the urinary bladder.⁷ In about one third of the cases of cystocele there is an associated stress urinary incontinence (SUI) due to the weakness of pelvic

floor muscles and pubourethral ligament. Damage to these structures during childbirth results in the descent of the proximal urethra causing SUI.

After vaginal operations for cystocele there is increased chance of retention of urine due to the post-operative tissue swelling, pain, bladder atony, hematoma and vaginal pack. Postoperative urinary retention is associated with risk of over distention and disruption of supports and even permanent dextrusor muscle damage.¹ The risk of urinary tract infection (UTI) increases with duration of urinary catheter.³ The available information demonstrates a three to 10 % increased risk of bacteriuria per day of catheterization.³⁻⁴

METHODS

It is a descriptive study conducted in the Department of Obstetrics and Gynecology in College of Medical Sciences – Teaching Hospital (COMS-TH), Nepal. Approval was taken from the ethical clearance committee of the hospital. A total of 80 cases of cystocele were included in the study during the period of two years 1/9/2011 – 30/10/2013. All women with cystocele irrespective of associated uterine descent and urinary incontinence were included in the

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study after the informed written consent. Women with chronic respiratory illnesses and women who had previously undergone pelvic floor repair were excluded. Data were entered in Microsoft Office Excel Worksheet and statistical analysis was done using SPSS version 20.0. "p value" of less than 0.05 was considered significant.

RESULTS

In this study, 66.3% (n =53) of the women were in the reproductive age group and 53.8% (n=43) of them had parity beyond 5. Majority of these women (51.4%, n=35) had second degree cystocele (Table 1) and 42.5% (n=34) had associated third degree cervical descent (Table 2).

Table 1: Distribution of severity of cystocele in operative cases (n=68)

Cystocele	Frequency	Percent
I degree	11	16.2
II degree	35	51.4
III degree	22	32.4
Total	68	100

Table 2: Association of uterine descent among study cases (n=80)

Cervical descent Degree	Cystocele		Cystocele	
	Frequency	Percent	Frequency	Percent
I	12	15	12*	15
II	16	20	16	20
III	34	42.5	34	42.5
Procidencia	18	22.5	18	22.5
Total	80	100	80	100

*Traction cystocele concomitant to uterine descent did not require surgical intervention.

Urinary incontinence was seen in 48.8% (n=39) of cases. Out of these, SUI was observed in 23.8% (n=19) cases, overactive bladder in 15% (n=12), while mixed incontinence was observed in only 10% (n=8) of cases (Table 3).

Table 3: Urinary incontinence associated with cystocele (n=80)

Nature of incontinence	Frequency	Percent
SUI	19	23.8
Urge incontinence	12	15
Mixed	8	10
Total	28	48.8

Vaginal hysterectomy with pelvic floor repair (VH with PFR) was the most common (58.8%, n=40) surgical operation followed by VH with PFR with placcation of bladder neck (22.2%, n=15) (Table

4). Most common (14.7%, n=10) post operative complication was UTI followed by fever (8.8%, n=6) and re-catheterization of urine (8.8%, n=6)(Table 5).

Table 4 : Analysis of surgical procedure undertaken (n=68)

Procedure undertaken	Frequency	Percent
Manchester repair with Anterior Colporraphy	9	13.2
Manchester repair with plication of bladder neck	4	5.8
Vaginal Hysterectomy with Surgical Pelvic floor repair	40	58.8
Vaginal Hysterectomy with Pelvic floor repair with plication of bladder neck	15	22.2
Total	68	100

Table 5: Analysis of post operative complications (n=68)

Post operative complications	*Frequency	Percent
Fever	6	8.8
Wound sepsis	1	1.4
Secondary hemorrhage	1	1.4
Inability to pass urine	2	2.8
Urinary tract infection	10	14.7
Incomplete voiding	5	7.3
Need for re catheterization	6	8.8
Total	31	45.2

*Some patients had more than one symptom.

Table 6: Analysis of post-voidal residual volume (n=68)

Postvoidal residue volume	Frequency	Percent
<50 ml	42	61.8
50-100 ml	8	11.8
100-200 ml	12	17.6
200-500 ml	6	8.8
Total	68	100

DISCUSSION

More than one million of Nepali women suffer from uterine prolapse and the majority of these patients are of reproductive age group.¹ In a study of 1,49,544 women a life time risk of 11.1% was seen for surgery for POP and urinary incontinence.⁹ However treatment option for cystocele ranges from nonsurgical treatment for mild cystocele to surgical correction for moderate and severe cystocele. The postoperative period following cystocele repair always remained a matter of concern for the surgeon. This is due to post operative tissue swelling, pain, transient bladder atony, or haematoma with retention of urine.¹⁰ Therefore postoperative indwelling catheterization

for certain days after prolapse surgery has become an accepted practice. On the other hand the insertion of indwelling catheter also increases the risk of urinary tract infection and the infection rate increases with the length of time a catheter remains in situ.⁸

Sah et al. observed maximum number (n=632) of cases among 40-70 years women which is similar to study done by Begum et al. where maximum cases i.e. 69.44% (n=72) was seen among 41-60 years.^{11,12} Similar observation was done by Sultana et al. where the maximum number of cases was seen in women of 51 years and above.¹³ In this study, majority of the women with POP were in reproductive age group which may be explained by the early age of marriage, short spacing, and early postpartum work resumption. In the study, there was total of 43 (53.8%) cases of parity beyond 5 which is similar to the study done by Begum et al. where 54.16% (n=72) of cases had parity of 5-9.¹² In study done by Menur et al. 73.6% (n=129) of women had parity beyond 5.¹⁴

POP can be either descent of anterior vaginal wall with its contents, posterior vaginal wall with its contents and uterine prolapse or its various combinations. Similar to the study, in a study done by Selterf et al. cystocele was the commonest (57%, n = 286) followed by urethrocele (28%, n =138).¹⁵ Akmel and Segni similarly reported cystocele being the most common in their cases with uterine prolapse (38.1%, n = 8) as opposed with both anterior and posterior vaginal wall descent (14.3%, n = 3).¹⁴

In this study, second degree cystocele was the commonest (51.4%, n=35) followed by third degree cystocele (32.4%, n=22). Further there was association between the severities of the degree of the descent of the cervix with that of severity of grade of cystocele. Selherf et al. analyzed various grades of cystocele amongst 286 cases out of a total of 488 uterovaginal prolapse and found symptomatic association of cystocele in only 11% (n=37) of cases in mild, 18% (n=23) of cases in moderate and 50% (n=6) cases of severe cystocele.¹⁵ Similarly Bandiera et al. found 29% (n=74) grade II cystocele, 47.3% (n=74) grade III cystocele and 23% (n=74) grade IV cystocele.¹⁶ Likewise Dietz et al. reported various degree of cystocele out of that 971 cases of POP, grade 0 cystocele in 27% (n=971), grade I in 32% (n=971), grade II in 23% (n=971) and grade III in 16% (n=971) of cases respectively.¹⁷

Urinary incontinence, especially the SUI is a well recognized manifestation in cases with cystocele. Luka et al. observed SUI in 15% (n=4458) of women and overactive bladder in 13% (n=4458) of their cases while Khan et al. observed a similar incidence of SUI (14.78%, n=69).^{18,19} To the contrary, Bai et al. observed SUI in 63.3% (n=19).²⁰ Further search in the literature revealed that Zargham et al. reported on 100 cases of POP, an incidence of 53% (n= 53) of SUI, 9% (n=9) of overactive bladder and 38% (n=38) of cases at mixed incontinence.²¹

The nature of intervention was decided by the extent of the cystocele, presence of SUI, degree of genital prolapse and the desire of further child bearing. In this study, 68 cases of cystocele (85%) underwent various forms of surgical corrections and traction cystocele concomitted with first degree genital prolapse did not require surgical correction and was advised to do Kegel's exercise but in the study done by Tahmin and Begum, and Begum et al. all the cases underwent surgical correction.^{10,12}

Kokabi et al. divided their cases of anterior colporrhaphy along with repair of SUI into 3 different groups for indwelling bladder drainage into 1, 2 and 4 days.²² As opposed to these Thakur et al. divided their cases of VH with PFR into 2 groups of short term catheterization (24hrs) and long term catheterization (72 hrs).²³ In this study, the duration of postoperative indwelling catheter were divided into different period depending on the nature of surgical intervention. The maximum duration of indwelling catheter was beyond 96 hours seen in 8.8% (n=6) of the cases due to post surgical bladder atony and incomplete voiding even after initial period of indwelling catheter. Otherwise indwelling catheter was kept between 24-48 hours following Manchester with anterior colporrhaphy, between 48 - 72 hours following VH with PFR and 72 - 96 hours following VH with PFR with Kelly's plication of bladder neck.

Similar to this study, in the study done by Begum et al.¹² UTI was the commonest complication (20.83%, n=15) followed by urinary retention (4.16%, n=3). In contrast to this, Sah et al found retention of urine in 1.74 % (n=11) cases and UTI in 0.79 % (n=5) cases.¹¹

While on one hand practice of placement of indwelling catheter has become a routine following surgery for cystocele prolapse to overcome retention of urine due to postoperative tissue edema and transient bladder atony, on the other hand indwelling catheter also

increases the risk of UTI. Therefore the best way to prevent catheter related problem is removal of catheter as soon as possible. Although there are no consensus regarding the removal of catheter, certain authors have found earlier removal after 24 hours is beneficial. The best assessment of bladder function after removal of catheter is postvoidal residual urine.

CONCLUSIONS

In this study, majority of the cases with cystocele were in the reproductive age with parity beyond five while maximum number of the women with cystocele had associated third degree uterocervical descent. Urinary tract infection was the commonest complication following surgical treatment followed by retention of urine.

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