112

Al-Mandeel H[1], Ross S[2], Robert M[2], Milne J[2]
1. *King Khalid University Hospital, Riyadh, Saudi Arabia,* ***2.*** *University of Calgary, Calgary, Canada*

INCIDENCE OF STRESS URINARY INCONTINENCE FOLLOWING SURGICAL REPAIR OF PELVIC ORGAN PROLAPSE IN PREVIOUSLY CONTINENT WOMEN

Hypothesis / aims of study

Pelvic organ prolapse (POP) and stress urinary incontinence (SUI) are two common conditions in women. They may coexist in the same patient but, on the other hand, any one of them or its treatment can be a risk factor for the development of the other one. Continent woman with POP may end with SUI once the prolapse is surgically repaired. Currently, preoperative finding of SUI with or without reduction of prolapse, even if no symptoms of SUI, is used as an indication for adding anti-incontinence procedure to surgical repair of POP in an attempt to reduce the incidence of postoperative SUI. While, if no SUI is demonstrated objectively during preoperative assessment of patients who are undergoing POP, then adding anti-incontinence procedure can carry a potential risk for unnecessary surgery. This is because surgeons believe the incidence of postoperative SUI in this case is very low. Unfortunately, this issue has not been studied well in the literature. A recent randomized controlled trial showed that the incidence of postoperative SUI in women who underwent abdominal repair of POP without the addition of anti-incontinent procedure is high (44.1%) [1]. However, this answer can't be generalized to women who undergo reconstructive vaginal repair and yet to be investigated. Thus, the aim of the study is to estimate the incidence of postoperative SUI in previously continent women who have had surgical vaginal repair of POP without a concomitant anti-incontinence procedure. In addition, the study will compare the quality of life (QOL) of women with and without postoperative SUI.

Study design, materials and methods

This was an observational descriptive study that included women who had reconstructive vaginal surgery for POP with no anti-incontinence procedure done between July1/2004 and June 30/2006 in a referral centre. Subjects were identified from hospital surgical database. Women were considered stress continent preoperatively if cough stress test with (by split speculum) or without reduction of prolapse was negative during physical examination. Exclusion criteria (positive cough stress test, any previous anti-incontinence surgery, those who had an abdominal or obliterative vaginal surgery to treat POP) were applied to the list and again during charts review. All related preoperative, operative, and postoperative data were retrieved from the charts of all eligible subjects. An invitation letter along with self-report questionnaire was mailed to all eligible women. Two reminders were used and one month apart. The questionnaire was used to measure the outcomes. The questionnaire consisted of Urinary Distress Index (UDI-6) and Incontinence Impact Questionnaire (IIQ-7) questions. UDI-6 was used to identify women with SUI symptoms and to assess the "degree of bother". A woman was also considered to have POSUI if she responded positively to an added question that addressed whether or not she had received any treatment/s for SUI since the prolapse surgery?.
Women were considered bothered if they answered "moderately" or "greatly" bothered by the symptom. IIQ-7 was used to measure incontinence-related QOL in all women. Simple descriptive statistics were calculated to describe the study population and the incidence of POSUI. The final score of IIQ-7 of women with SUI was compared to the score of those without SUI by using non-parametric measurement with Mann-Whitney U test. The score difference was considered statistically significant if *p* value is less than 0.05 with two-sided test. Microsoft Office 2003 software was used for data entry and statistical calculations.

Results

The total number of respondents was 100 out of 132 eligible women (response rate of 75.75%). The average follow up time since the index surgery was 2 years (1.16 to 3.03 years). Respondents were not different from nonrespondents in the general characteristics (Table). Preoperative urodynamics and or cystoscopy were done in only 27 respondents. Respondents had all different types and grades (Baden-Walker system) of POP. The overall number of respondents with POSUI was 42 women (42%). 12 out of 37 women with postoperative SUI symptoms were bothered by the presence of the symptoms (32.5%). 97 women out of respondents answered IIQ-7 questions. QOL (IIQ-7 score) of women with postoperative SUI was significantly higher than those without postoperative (14.1 vs. 3.4; p=0.0006).

Table: Characteristic of Study Sample

Characteristics of the group	Respondents (n=100)	Non-respondents (n=32)
Age (years)		
Mean (±SD)	61 (±12)	60 (±12)
Range	33 – 89	36 – 82
Parity		
Nulliparous (%)	1 (1%)	0 (0%)
Multiparous (%)	75 (75%)	25 (77%)
Grandmultiparous (%)	9 (9%)	4 (12.12%)
Missing	15 (15%)	3 (9.09%)
No. of Vaginal Delivery		
Median	3	3
Range	0 – 9	1 – 8
Body Mass Index		
Mean (±SD)	26.61 (±5.28)	30.16 (±7.83)
Range	19.14 – 57.09	20.45 – 48.41
Preop symptoms of SUI		
Yes (%)	31 (31%)	16 (51%)
No (%)	64 (64%)	15 (46%)
Missing (%)	5 (5.%)	1 (3.%)

Interpretation of results

The result of the study showed that the incidence of POSUI following surgical vaginal repair of POP (42%) is high and contradict the general believe by most Urogynecologists. There was no difference in the distribution of known risk factors for SUI (age, parity, number of vaginal deliveries, and body mass index) between women with and without the primary outcome. Interestingly, postoperative SUI developed following vaginal repairs of all types and grades of prolapse and not only in those who had advanced prolapse preoperatively.

The burden of SUI symptoms on subjects with the positive symptoms, according to the percentage of bothered women, was similar to other studies [2].

Despite that IIQ-7 score was low for both groups, however women with postoperative SUI has significantly worse QOL secondary to the presence of the condition.

Despite it was a retrospective study but no recall bias was not possible in data collection. The relatively good sample size and response rate were part of the strengths of the study. Nevertheless, sampling bias could occur and would limit the validity of the study. The lack of preoperative urodynamic testing in some respondents might influence the result to be higher than what is should be because of the possible underdiagnosis of preoperative SUI. The definition of continence in the study can affect the result in comparison to other studies. Thus, standardization of SUI definition in the subgroup of women with POP is prompted for research purposes.

Concluding message

Incidence of postoperative SUI in continent women following reconstructive vaginal repair of POP is high with an impact on QOL of affected women. The objective finding of preoperative SUI with reduction of prolapse is not the only predictor for developing postoperative SUI. Neuropathic injury secondary to vaginal dissection may play a role in that risk as well. A randomised controlled trial to assess risks and benefits of adding anti-incontinent procedure to this group of women would help to clarify the issue further.

References

1. New England Journal of Medicine (2006) 354; 1557 - 1566
2. American Journal of Obstetrics and Gynecology (2003) 189; 1275 – 1282

Specify source of funding or grant	**None**
Is this a clinical trial?	**No**
What were the subjects in the study?	**HUMAN**
Was this study approved by an ethics committee?	**Yes**
Specify Name of Ethics Committee	**University of Calgary Ethics and Scientific Committee**
Was the Declaration of Helsinki followed?	**Yes**
Was informed consent obtained from the patients?	**No**