

## DO OAB SYMPTOMS IMPROVE AFTER SURGERY FOR POP?

### Hypothesis / aims of study

Symptoms of an overactive bladder (OAB) are often seen in patients with Pelvic Organ Prolapse (POP). OAB is defined as urgency with or without urge incontinence, usually with frequency and nocturia.<sup>(1)</sup> It is generally accepted that OAB is a highly prevalent disorder that increases with age in both sexes and that has a profound impact on quality of life. Seventeen percent of women have symptoms of an overactive bladder.<sup>(1)</sup> Fifteen percent of the women aged 20-29 years reported to have symptoms of OAB, this percentage increased to 21% for women older than 70 years<sup>(1)</sup>. Since both POP and OAB are frequently seen in the elderly female population it is expected that the two conditions are frequently encountered in the same patient. However it is unclear whether there is a causal relationship between the two. If there is a causal relationship it can be expected that OAB symptoms improve after successful treatment of POP. The goal of this review is to search if OAB symptoms improve after pelvic surgery for Pelvic Organ Prolapse (POP).

### Study design, materials and methods

In this study we did not only use the OAB syndrome as described in the official definition, but we also studied the various symptoms of OAB such as urgency, urge incontinence, frequency and nocturia.

We searched on Medline and Embase ending on March 22<sup>nd</sup> 2009 for studies with the following terms: ("overactive bladder" OR "urgency" OR "frequency" OR "nocturia" OR "urge incontinence" OR "micturition" ) AND "prolapse" AND ("repair" OR "operation" OR "surgery")

We selected 328 studies which might be answering our study questions. On the basis of the abstract we selected 43 studies with possible relevant information which were studied in detail. Finally we identified 12 studies with relevant and analyzable data. In the studies finally selected we cross checked the reference list to check for missing studies. We only included studies in which actual data about the prevalence of OAB symptoms were available. Studies which mentioned only a conclusion without actual data were excluded. Studies with concomitant operations for stress urinary incontinence (SUI) were only included if the patients with concomitant SUI operations could be identified. These patients were not included in the analysis. The reason for excluding concomitant incontinence surgery is that it is a well known risk factor for de novo OAB symptoms.

### Results

Table 1 shows the studies with patients with OAB symptoms before and after pelvic organ prolapse surgery. As mentioned earlier only cases without concomitant SUI surgery were included. In total we included 12 studies. The type of surgery describes the type of operation and the operated compartment. Three studies had overactive bladder syndrome as the parameter, the rest studied one or more symptoms of overactive bladder. The overall follow up was 90% or more and showed an improvement of the OAB symptoms after operation. The prevalence of OAB symptoms before operation vary and most studies showed an improvement after surgery. "De novo" are patients who acquired the symptoms of overactive bladder. Only one study provides relevant information on "de novo" OAB symptoms. For computing RR we divided the frequency of OAB symptoms preoperative by the total postoperative symptoms (including also "de novo"). All relative risks are equal or greater than 1 indicating that there is an improvement of OAB symptoms after surgery for POP.

**Table 1 Prevalence of OAB symptoms before and after POP surgery without concomitant incontinence surgery.**

Study no	n	Type of surgery	Stages and of compartments women with POP	Outcome Parameter	Frequency of OAB symptoms preoperative	Frequency of OAB symptoms post operative	RR (pre/post)
1	44	anterior colporrhaphy and hysterectomy	cystocele : 34 apical descent :15 enterocele: 1	urgency	20.5% (9/44)	12.5% (3/24)	1,6
				urge incontinence	27.3% (12/44)	4.2% (1/24)	6,5
				frequency	15.9%(7/44)	0% (0/24)	∞
2	16	posterior colporrhaphy and/or Manchester repair and anterior colporrhaphy	anterior and/or posterior prolapse	urge incontinence	87,5% (14/16)	63% (10/16)	1,4
3	10	anterior colporrhaphy	all grade III or IV	urge incontinence	40% (4/10)	20% (2/10)	2,0
4	38	uterine and/or vaginal prolapse	grade II 34.2% grade III 55.3% grade IV 10,5%	"overactive bladder"	100% (38/38)	36.8% (14/38)	2,7
5	30	infracoccygeal sacropexy	grade II 5 grade III 12 grade IV 3 uterine prolapse 10	urgency	53.3% (16/30)	13.3% (4/30)	4,0
				nocturia	46.7% (14/30)	6.7% (2/30)	7,0
6	32	anterior and posterior mesh	all stage II-IV	urge incontinence	16% (5/32)	16% (5/32)	1,0
				urgency	50% (16/32)	40% (13/32)	1,3
7	165	sacrocolpopexy	stage II 15.2% stage III 67.9% stage IV 17.0%	urge incontinence	28.1% (45/160)	11.9% (18/151)	2,4
				urge symptoms	90.6% (145/160)	80.9%	1,1

						(123/152)	
8	93	fascial anterior repair vaginal hysterectomy and/or posterior repair	>=stage II	urge incontinence	62.3% (58/93)	17.2% (16/93)	3,7
				urgency	100% (93/93)	30.1 (28/93)	3,3
				frequency	100% (93/93)	41% (38/93)	2,4
9	49	anterior repair	grade II or more	overactive bladder	100% (49/49)	46.7% (23/49)	2,1
10	111	anterior repair	cystocele	urge incontinence	27.9% (31/111)	18.0% (20/111) <sup>a</sup>	1,6
11	78	hysterectomy, cystocele and/or rectocele repair	stage>=II	urge incontinence	64.1% (50/78)	14.1% (11/78)	4,5
				Frequency	66.7% (52/78)	20.5% (16/78)	3,3
12	272	suspension vaginal apex by high levator myorrhaphy	stage>=II	urgency	55.9% (152/272)	33.8% (92/272)	1,7
				frequency	46.7% (127/272)	22.1% (60/272)	2,1
				nocturia	45.6% (124/272)	34.6% (94/272)	1,3
				urge incontinence	44.5% (121/272)	30.9% (84/272)	1,4
<sup>a</sup> Denovo:21.6% (24/111) n.a. not available POP: Pelvic Organ Prolapse							

#### Interpretation of results

In practically all studies we found an improvement of the OAB symptoms after pelvic organ surgery. We did not find any relationship between the compartment of the prolapse, method of surgery, parameter or stage of prolapse and the results after POP surgery. The results strongly suggest that there exists a relationship between OAB and POP and that after POP surgery the OAB symptoms improve or disappear. On the basis of these data we believe that it is highly likeable that symptoms of OAB will disappear after surgery for POP and that women should be informed accordingly.

#### Concluding message

Women with vaginal prolapse and symptoms of OAB can expect an improvement of these symptoms after POP surgery.

#### References

1. Temml C, Heidler S, Ponholzer A, Madersbacher S. Prevalence of the overactive bladder syndrome by applying the International Continence Society definition. Eur.Urol. 2005;48:622-627

<b>Specify source of funding or grant</b>	<b>NONE</b>
<b>Is this a clinical trial?</b>	<b>No</b>
<b>What were the subjects in the study?</b>	<b>NONE</b>