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CORRELATION BETWEEN STRESS URINARY INCONTINENCE AND ANTERIOR COMPARTMENT DEFECT BEFORE AND AFTER SURGICAL TREATMENT.

Hypothesis / aims of study

Anterior compartment defects are very often associated with urinary stress incontinence (SUI), either as accompanying symptoms or as a consequence of reconstructive surgery. We very often see extremely varying pictures of SUI which has just appeared, of no change or even of diminishing symptoms in some cases after surgery. The aim of our study was to assess the effect of surgery on the occurrence of SUI and to ascertain whether there is a correlation between the position and mobility of the urethro-vesical junction (UVJ) in groups of continent and incontinent women.

Study design, materials and methods

We included in our study 87 women with symptomatic anterior Pelvic Organ Prolapse POP ≥ II (Pelvic Organ Prolapse Quantitative – POP - Q) – divided into three groups according to protocol. The Mesh group, treated with anterior repair using free insertion of individualized mesh (Mesh; n=33); the Prolift group, treated with the Prolift anterior® mesh (Prolift; n=36); and the group treated with traditional anterior vaginal repair (AR group; n=18). All patients received the International Consultation on Incontinence Questionnaire – Short form (ICIQ-UI SF) before the operation and 3-5 months afterwards. The diagnosis of SUI according to the ICIQ-UI SF was any score above zero with a positive answer to the question: Do you have any leakage of urine when you cough or sneeze and/or while walking or running? Patients underwent a urodynamic examination before and after surgery. Perineal ultrasound examination (GE Voluson 730 Expert) was performed before and after the operation to ascertain the position of UVJ at rest and at maximum Valsalva maneuver. The mobility of UVJ was expressed as a vector of movement. Data were processed and analysed in open computer environment, R language, version 2.9.1.

Results

Demographic data show no statistically significant difference between any of the groups. The mean age was 60.4 (SD 9.8), mean parity 2.0 (SD 0.5) and mean BMI 27.5 (SD 3.9). There is discrepancy between the urodynamic diagnosis of SUI and SUI diagnosed according to ICIQ-UI SF (Tab. 1).

Tab. 1 SUI by patients before operation proved objectively and by ICIQ–UI SF

N=82	**Urodynamic stress incontinence**	**SUI diagnosed by ICIQ-UI SF**	
No	67%	No (score = 0)	21%
Yes	33%	Yes (score > 0)	79%

This means we would have failed to diagnose SUI during the urodynamic examination in a large number of patient with anterior compartment prolapse. For this reason in the follow-up diagnosis of SUI after the operation we only used the ICIQ-UI SF. If we look at the effect of different procedures on SUI, there was no significant difference in scores before and after the surgery (Tab. 2).

Tab. 2

ICIQ–UI SF score	AR		Prolift		Mesh		Kruskall – Wallis test p-value
	N	median (QR)	N	median (QR)	N	median (QR)	
Before operation	16	12 (9)	34	10 (10)	33	7 (11)	0.0507
After operation	17	4 (13)	34	7 (13)	31	3 (11)	0.1878

However, this information does not indicate how many patients experienced an improvement in their condition and how many experienced worsening. In the next tables we see
a comparison of SUI in patients as established by the ICIQ –UI SF before and after the operation (Tab. 3). An improvement of SUI was more often recorded than worsening, to a statistically significant degree.

Tab. 3 Comparison of SUI by patients established by the ICIQ –UI SF before and after the operation.

	SUI after surgery

		Score = 0	Score > 0	Total
SUI before surgery	Score = 0	13 (no leakage)	4 (deterioration)	17
	Score > 0	14 (improvement)	48 (no change)	62
	Total	27	52	79

SUI after surgery		
No leakage of urine	13	16%
Improvement	14	18%
Deterioration	4	5%
Leakage of urine - no change	48	61%
Total	79	100%

McNemar test p-value: 0.03389

We have not ascertained any correlation between UVJ mobility and SUI before and after the operation (Tab. 4).
Tab. 4 Correlation between mobility of UVJ and SUI before and after the operation

SUI (established by the ICI-UI SF score)	Continent		Incontinent		t-test p-value
	N	mean (SD)	N	mean (SD)	
Vector of movement of UVJ before operation [mm]	55	26.2 (13.1)	27	27.3 (10.1)	0.6981
Vector of movement of UVJ after operation [mm]	46	15.8 (8.9)	34	17.8 (8.3)	0.3319
Change in UVJ mobility as a result of the operation [mm]	46	-9.5 (11.2)	27	-10.0 (12.1)	0.8629

Interpretation of results

Surprisingly, we failed to establish any correlation between mobility of the UVJ and occurrence of SUI before and after the operation. The results of our study imply that the presence of SUI before anterior compartment defect reconstructive surgery is one of the symptoms accompanying prolapse, and that questionnaires are more sensitive tools than urodynamic examination. An improvement of SUI was more often recorded than worsening.

Concluding message

Routine performance of anti-incontinence procedures at the same time as reconstruction of anterior compartment would not appear to be justified.

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Is this study registered in a public clinical trials registry?	**No**
Is this a Randomised Controlled Trial (RCT)?	**No**
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Was this study approved by an ethics committee?	**Yes**
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