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and 3 controls were not available but will be presented at the meeting. The multifilament polypropylene mesh group at 6 weeks revealed a foreign body type granulomatous inflammatory reaction with moderate cellular fibrous plates at the serosal surface. In 2 specimens there was a much more pronounced fibrous reaction including focal involvement of the muscularis propria. A 3rd specimen shows a severe diffuse injury involving the lamina propria and urothelium in addition to perivesical abscess. The same group at 12 weeks had a similar pattern of response. Moderate mixed cell inflammation was seen in the CFX group at both collection intervals. The graft was loosely adherent to the bladder wall with a thin layer of fibrous tissue and absence of any inflammation or fibrosis in the underlying muscularis propria or lamina propria. The urothelium was also normal. A specimen revealed focal fibrosis with transmural penetration of muscularis propria sharply demarcated from the adjacent lamina propria. No significant changes were recognized in the control group.

Conclusions: There is a significant bladder tissue inflammatory response to the synthetic mesh in comparison to the CFX, which revealed minimal fibrosis and no inflammation. This is consistent over the 2 tested time intervals. We think this would explain the lack of reported adverse outcomes in the cadaveric fascia lata slings with regards to graft erosion or infection.

Supported by Mentor Canada

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URODYNAMIC EVIDENCE OF BLADDER OUTLET OBSTRUCTION AFTER SUBURETHRAL SLING SURGERY

AIMS OF STUDY: Since suburethral sling procedure has been considered to be reliable and maintain long term surgical result, it is one of the current surgical options for treating female stress urinary incontinence. However, voiding dysfunction is well-recognized complication of this procedure. Long-standing poor voiding due to outlet obstruction is sometimes encountered after sling surgery.

Although recent sling surgery has been improved technically to prevent excessive sling tension, an exact status of voiding after this operation remains ambiguous.

Thus, using pressure/flow studies, the present study evaluated urodynamic aspects of women who underwent suburethral sling operation. The changes in urodynamic parameters were further studied to determine whether these patients are urodynamically obstructed after operation.

PATIENTS AND METHODS: In ten patients (mean age 63 years, range 50 to 78) with stress urinary incontinence, pressure/flow studies were performed before and three months after suburethral sling operation. In pressure/flow study, vesical pressure was measured by a transurethral catheter (8Fr), and rectal pressure was measured by an 8Fr-balloon catheter. Vesical pressure, rectal pressure and flow rate were simultaneously recorded during micturition using a DUET[®] version 8.0 (DANTEC, Medtronic, Denmark).

The urodynamic parameters studied were maximum flow rate (Q_{max}), detrusor pressure at Q_{max} (P_{det.max}), closing pressure (P_{det.clos}) and linearized passive urethral resistance relation (linPURR). The changes in these parameters were investigated by comparing the preoperative values to the postoperative values (paired-t test). In order to evaluate whether these changes were clinically significant, sensitivity (SENS), specificity (SP), positive (PPV) and negative predictive values (NPV) were calculated for different cutoff values of the changes of urodynamic parameters. The above values were correlated with symptoms resulting from outlet obstruction (Fisher's test). Descriptive statistics were presented as mean plus or minus standard deviation (SD).

RESULT: In all patients, the pressure/flow plots obtained before operation showed a normal pattern which is characterized by nearly horizontal slope, low Pdet.max and high Qmax, indicating that the patients had neither outlet obstruction nor weak detrusor. After suburethral operation, all urodynamic parameters showed the statistically significant changes, i.e., Qmax was decrease while Pdet.max, Pdet.clos and linPURR were increased (Table 1). Among the parameters, linPURR showed the greatest change (5-fold increase). Of 10 patients, four had outlet obstruction symptoms such as frequency, urgency and urge incontinence after the operation, although bladder emptying was complete. The remaining six showed a good surgical outcome.

In correlation analysis between symptoms and urodynamic parameters, a decrease in Qmax showed a high SENS, high NPV, low SP and low PPV for symptoms. However, those were not statistically significant. Although elevation of Pdet.max and Pdet.clos over 10cmH₂O showed a relatively high SENS, SP, PPV and PNV, no statistical significant correlation with the presence of symptoms was demonstrated. The increase of linPURR over 0.2cm/ml·sec⁻¹ was the only urodynamic parameter showing the significant correlation with symptoms of bladder outlet obstruction (Table 2).

CONCLUSION: The present study demonstrates urodynamic evidence of outlet obstruction after suburethral sling surgery. The postoperative decrease in Qmax as well as the postoperative increase in Pdet.max, Pdet.clos and linPURR suggest that this procedure inevitably induces bladder outlet obstruction, although a degree of obstruction may differ with each individual patient. Therefore, from a clinical point of view, it is important to determine whether outlet obstruction is clinically significant.

The present study also shows that the increase in linPURR alone can be correlated to symptoms secondary to obstruction. This may suggest that the clinical significance of obstruction should be diagnosed based on the changes in the slope of the pressure/flow plot after the operation.

Table 1. Changes of urodynamic values in Qmax, Pdet.max, Pdet.clos and linPURR

	Qmax (ml/sec)	Pdet.max (cmH ₂ O)	Pdet.clos (cmH ₂ O)	LinPURR (cmH ₂ O/ml·sec ⁻¹)
Pre op mean (SD)	29.2 (14.2)	15.5 (9.18)	6.28 (4.20)	0.12 (0.08)
Post op mean (SD)	20.3 (10.5)	29.8 (12.3)	16.1 (10.1)	0.62 (0.78)
P value	<0.05	<0.05	<0.05	<0.05

Table 2. Correlation between symptoms and the change of urodynamic parameters

	ΔQmax<-15	ΔPdet.max>20	ΔPdet.clos>10	ΔlinPURR>0.2*
SENS (%)	50	100	80	100
SP (%)	66.7	50	60	83.3
PPV (%)	50	57.1	66.7	80
NPV (%)	66.7	100	75	100

Δ = postoperative Value - preoperative Value
* p < 0.05

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GABA-ERGIC CONTRIBUTION TO RAT BLADDER OVERACTIVITY FOLLOWING MIDDLE CEREBRAL ARTERY OCCLUSION

Aims of Study

The inhibitory effects of γ-aminobutyric acid (GABA) on bladder motility have been investigated in animal models, and in the micturition reflex pathway this agent appears