

of urinary retention compared to other reports, but undoubtedly this paper shows that unfavorable factors must be a contraindication for an orthotopic neobladder.

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## UROLOGICAL ONCOLOGY

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### **Primary T1G3 bladder cancer: organ preserving approach or immediate cystectomy?**

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*J.Urol. 2004; 172: 70-75.*

**Purpose:** In this retrospective nonrandomized study we compared the long-term outcome in patients with newly diagnosed stage T1G3 bladder cancer treated with transurethral resection and bacillus Calmette-Guerin or immediate cystectomy.

**Materials and Methods:** Of 121 patients with a median age of 67 years (range 36 to 88) diagnosed with primary T1G3 bladder cancer between 1976 and 1999, 92 were treated by transureteral resection with additional intravesical bacillus Calmette-Guerin and 29 were treated with immediate cystectomy.

**Results:** Of the 92 patients treated with an organ preserving approach 29 remained disease-free, local recurrence developed in 33 (36%) and progression developed in 30 (33%) at a median followup of 6.9 years (range 0.6 to 16.5). Of these 92 patients 27 (29%) underwent deferred cystectomy at a median of 12.9 months (range 4.8 to 136), of whom 10 (37%) with a median postoperative followup of 19 months (range 2 to 173) died of progressive disease with a median survival of 13 months (range 3 to 34) after cystectomy. The majority of patients who died of progressive disease refused cystectomy, were referred too late for cystectomy, were inoperable or had upper urinary tract disease. Six of the 29 patients (21%) undergoing immediate cystectomy had progression at a median of 13.2 months (range 5.5 to 37). Overall and tumor specific survival at 5 years in patients treated with an organ preserving approach was 69% and 80%, and in those treated with immediate cystectomy it was 54% and 69%, respectively.

**Conclusions:** The results of this analysis demonstrate that the concept of an organ preserving approach is acceptable and spares the bladder in approximately half of the patients with primary T1G3 bladder cancer. Of the patients 30% require deferred cystectomy, making meticulous, close followup mandatory.

### **Editorial Comment**

This paper is a non-randomized observation of patients with high risk bladder cancer treated either with TUR-B and BCG or with immediate cystectomy.

The data suggest altogether that T1G3 bladder carcinoma is a dangerous disease but can be treated effectively by TUR-B and BCG. Cystectomy may be prevented by this treatment, according to this conservative estimate, in approximately 50%.

Interestingly, if patients were looked upon closely, median time to progression, overall mortality, and all other outcome data were similar between two groups. In both groups around 15% showed positive lymph nodes at lymphadenectomy.

Tumor specific survival at 5 years was 80% and 69%, respectively (not significant). In the group of patients treated with immediate cystectomy 48% died. Even more interestingly, for tumor specific survival the difference was significant in favor of deferred cystectomy (  $p = 0.02$  ).

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## FEMALE UROLOGY

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### **Mechanical properties of urogynecologic implant materials**

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*Int Urogynecol J Pelvic Floor Dysfunct.* 2003; 14: 239-43

Synthetic suburethral slings have recently become popular despite the risk of erosion commonly associated with synthetic implants. Some of these materials seem to have unexpectedly low erosion rates. Based on the hypothesis that erosion is due, in part, to biomechanical properties, we undertook an in vitro study. The biomechanical properties of eight non-reabsorbable synthetic implant materials, stiffness (slope, N/mm) and peak load (N) were determined from load vs. displacement curves. Open-weave Prolene mesh showed unique biomechanical properties compared to other tested materials. The tension-free vaginal tape had the lowest initial stiffness (0.23 N/mm), i.e. low resistance to deformation at forces below the elastic limit, whereas the stiffest implant tested, a nylon tape, reached 6.83 N/mm. We concluded that the TVT and other wide-weave Prolene tapes have unique biomechanical characteristics. These properties may be at least partly responsible for the apparent clinical success of the implants

### **Editorial Comment**

The authors review the biomechanical properties of currently popular implant materials used in the treatment of female stress urinary incontinence and pelvic reconstruction. Materials reviewed included polypropylene as well as polyethylene terephthalate (mersilene), expanded polytetrafluoroethylene (Gortex) and nylon. Parameters quantified included initial stiffness (load needed before the material begins irreversible deformation) and the mean peak load at which time the material will rupture. Testing indicated that the tension free vaginal tape was the least stiff of the materials tested.

The authors utilized a testing system, which is valuable to review for future researchers in this area. It would have been of great value to the reader if the authors had been able to also test the reviewed materials at identical widths; they noted in the report that some specimens were of smaller width than others secondary to their commercial production. The discussion section raises some valuable points regarding the interaction of the graft material on the native tissues and the effect of a biomechanical difference between the two. Though this paper does not comment on the manner of weave and mesh pore size it makes for excellent reading for those interested in the physical properties of these popular synthetic graft materials.

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