

## **THE RISK OF BLADDER PERFORATION DURING TVT PROCEDURE ACCORDING TO THE BLADDER FILLING OR EMPTYING**

### **Aims of Study**

The bladder injury rate during tension-free transvaginal tape (TVT) procedure is variously reported as 1 to 24 %[1]. To prevent the bladder perforation, bladder emptying has been recommended during TVT procedure. It was hypothesized that bladder emptying might separate the bladder wall from pelvic bone, resulted in safe progressing of TVT needle between them. But this hypothesis constitutes some dilemma because bladder emptying by drainage, not by active detrusor contraction, appears to show no widening gap between pelvic bone and bladder on videourodynamic findings. The aims of this present study were to evaluate the preliminary results regarding the safety of TVT procedures during bladder filling in the treatment of stress urinary incontinence (SUI) in women.

### **Methods**

Thirty-three women with demonstrable stress urinary incontinence underwent a nonrandomized, prospective study using the TVT procedure. Preoperatively all the patients were evaluated with videourodynamic studies. The procedure was performed according to the technique described by Ulmsten and Petros[2], except one condition. In the present study, instead of bladder emptying, the TVT needle was inserted after bladder filling of 300 ml. The surgical procedure was performed under spinal cord anaesthesia in all patients. Intraoperatively three patients were inserted the TVT under the observation of cystoscopy.

### **Results**

On video-findings, the lower bottom lines of cystogram were separated from the upper margin of pelvic bone during emptying by voiding (active detrusor contraction), but not separated during emptying by drainage. On cystoscopic findings, the route of TVT on bladder was extended in the long distance from urethra to antero-lateral portion of the bladder just beneath the bladder wall. There was no bladder injury in all cases. Thirty patients were inserted TVT after cystocele repair, and the others only TVT.

### **Conclusions**

TVT procedure during bladder filling might be a more safe procedure than that during bladder emptying. Bladder emptying does not make a more gap between pubic bone and bladder wall, because they are attached by fixed connective tissues. In other words, bladder emptying makes the condition of solid bone and friable bladder, attached together. The needle may be apt to progress and injury to the friable bladder. Bladder filling makes the condition of solid bone and unfolded, tightened bladder, which can make the needle progress easily between them. Another important factor is dullness of the needle tip.

### **References**

1. Eur Urol 39:709-715, 2001
2. Int Urogynecol J 7:81-86, 1996