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## **HINDRANCE EXTENT OF ACTIVITIES OF DAILY LIVING IN PATIENTS WITH LOWER URINARY TRACT DYSFUNCTION DUE TO TETHERED CORD SYNDROME MORE THAN 20 YEARS AFTER UNTETHERING SURGERY**

### **Aims of Study**

To investigate the extent of hindrance of activities of daily living in patients with lower urinary tract dysfunction due to tethered cord syndrome (TCS) more than 20 years after untethering surgery

### **Methods**

A questionnaire, which consisted of 20 items focused on the present activities of daily living was mailed to 52 patients who had undergone untethering surgery from 1975 to 1982. Thirty three (63%) patients replied. The median (range) age was 27 (24 – 72) years old. The median follow-up period was 23 (20 – 27) years after surgery. There were 10 patients with tight filum terminale (TFT), and 23 with cauda equina adhesion syndrome (CEAS), including lipomeningocele. The postoperative condition of the lower urinary tract function was assessed as improved, unchanged or deteriorated.

### **Results**

The daytime urinary frequency was more than 10 times in 10 (30%) of them, and the nocturnal frequency was once in 8 (24%) and twice in 11 (33%). Eighteen (55%) patients had enuresis nocturna before surgery, while 11 (33%) suffered from voiding difficulty. The frequency of bowel movement was more than twice in 19 (58%), and bowel incontinence was observed by 5 (15%). Seven (21%), including 4 patients with VUR, had recurrent pyelonephritis. After surgery, the complaints of lower urinary tract dysfunction had disappeared in 8 (24%) patients. The most severe troubling symptoms were voiding difficulty and urinary incontinence in 7 patients, next was urinary incontinence in 7, and third was voiding difficulty in 3. Urological management consisted in clean intermittent catheterization for 8 patients including 3 patients after the surgery of bladder augmentation due to deterioration of upper urinary tracts, Crede manoeuvre for 3, spontaneous voiding and use of pad or diaper for 9, use of external collecting device in 2, special underwear for one patient with incontinence, and establishment of spontaneous micturition for 10. Lower urinary tract symptoms improved after surgery in all patients with TFT, except for one patient whose symptoms deteriorated immediately after surgery and in about 40 % of those with CEAS. However, one (10%) of the 10 patients with TFT and 7 (30%) of 23 patients with CEAS presented deterioration of urinary incontinence, of voiding difficulty or of bowel incontinence after surgery.

### **Conclusions**

In our series of 32 patients with TCS, excellent recovery of lower urinary tract dysfunction was observed after untethering surgery. But surgery seemed to have been more effective in patients with TFT than in those with CEAS.