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Title: EFFECT OF LONG-TERM BLADDER MANAGEMENT ON VIDEO-URODYNAMIC PARAMETERS IN SPINAL CORD INJURED PATIENTS

Aims Of Study:

The efficacy of various bladder management protocols in improving urodynamic parameters remains debatable in spinal cord injured patients (SCI).

Since Lapides popularized clean intermittent catheterization (CIC), this bladder management has been widely used in SCI patients. However, few studies have compared urodynamic parameters of CIC versus alternate bladder management protocols. We studied changes, which occurred over time in urodynamic parameters in a cohort of SCI patients with various bladder managements followed yearly at our institution over the past 11 years.

Methods:

We retrospectively reviewed multichannel videourodynamic studies of 179 SCI patients followed at The Miami Veterans Affairs Hospital from 1982-1999. Only patients with at least 3 sequential studies were included. Eighty-six male SCI patients were identified average follow-up of 5.2 years (1 to 11 years) from their first urodynamic study to their final study.

Results:

86 spinal cord injured patients were categorized based on their method of bladder management into four groups: 1) intermittent catheterization (CIC), N= 20, 2) sphincterotomy (SPH) N =10, 3) spontaneous voiding with external catheter (SVE), N=48, 4) and chronic Foley (FOL), N= 9. Interestingly, bladder capacity decreased in all groups over time ($p=0.03$). However, in the CIC group the mean final capacity (436 cc) was higher than the mean final capacity of any other group ($p= 0.01$). Mean post -void residual volume increased in the SVE group on follow up, which was statistically significant ($p=0.02$). On final urodynamic evaluations the detrusor pressure at maximum flow rate was poorer in all groups in comparison to the CIC ($p=0.04$). Surprisingly, we showed a trend ($p=0.09$) towards worsening in compliance in all groups, including CIC.

Conclusions:

Intermittent catheterization appears to be the optimal method of bladder management in SCI patients. CIC provides the best preservation of bladder capacity and detrusor muscle function in long term follow-up. However, slow but progressive loss of detrusor compliance appears to be unaffected by bladder management protocol.