



Session 108: Urodynamic finding in patients with down syndrome and Quality of life survey

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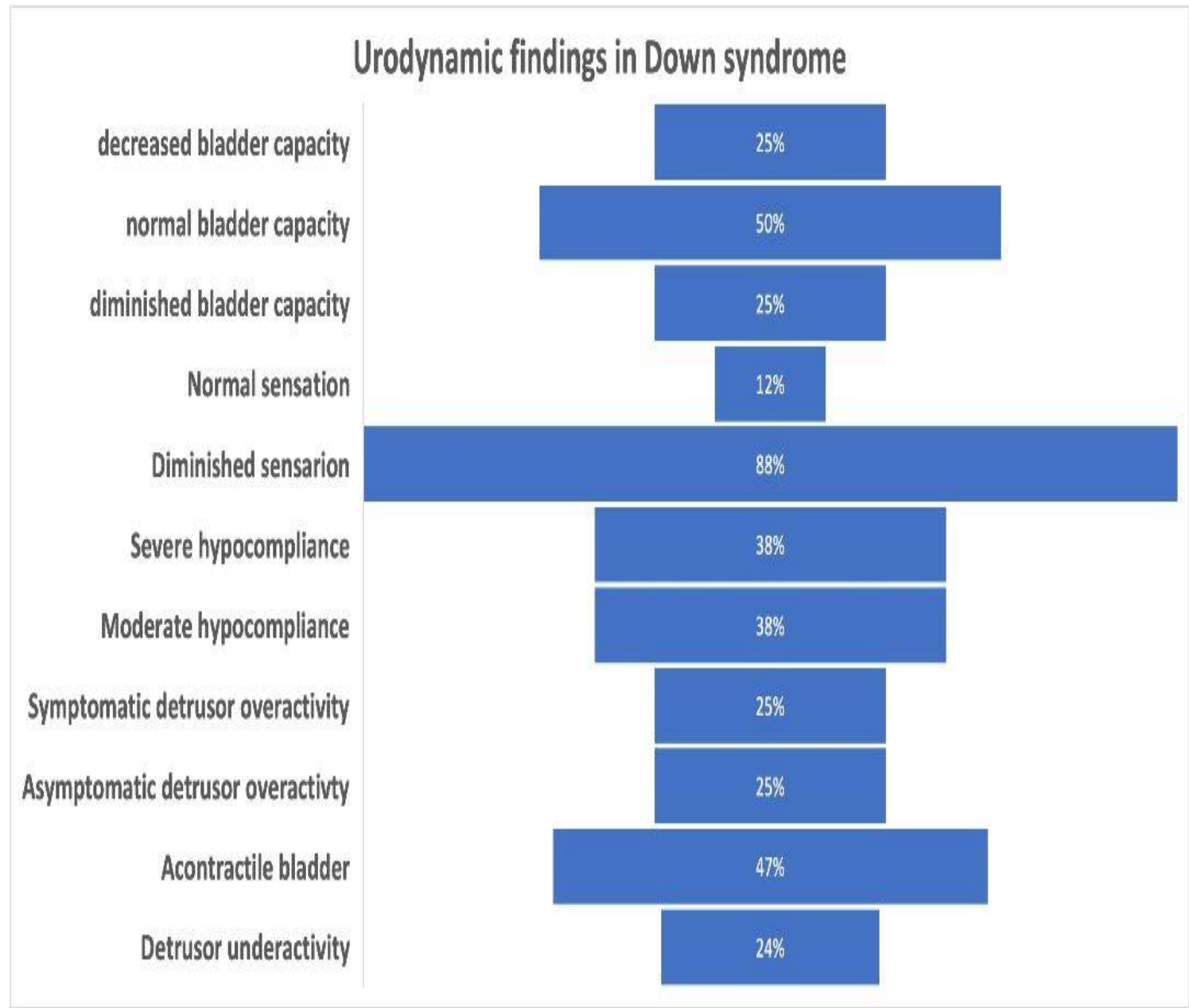
Mostafa E shaba
Cairo university hospital, Egypt

Hypothesis / aims of study

Patient with down syndrome show better survival and many of them lead a successful life, thus issues like nocturnal enuresis, incontinence, and erectile dysfunction seem more bothersome than previously note. Upper urinary tract affection is not uncommon in these patients as well. Patients with down syndrome had urodynamics to help them lead a better life.

Study design, materials and methods

As a Tertiary referral center, patient with down syndrome present with variable urological complaints and symptoms were examined, urodynamic study was performed as needed. The patient data was collected and speculated. Between January 2021, till December 2022, thirty four down syndrome patients presented to our neuro-urology unit.



Results and interpretation

Ages ranging between 6 to 22, (mean age 13.5+/- 2.8), eighteen girls (53%) and sixteen boys(47%). Nocturnal enuresis was the main complaint in 41% (14 patients), upper tract affection was the main presenting symptom in the rest of the patients with varying degrees. Some patients presented originally with upper tract affection and uremic manifestations 10 patients (29.4%), the remaining patients (29.4%) had upper tract affection, nevertheless their kidney functions were not affected. Upper tract affection was noted accidentally on ultrasound for other abdominal complaints. Questionnaire to carers, suggest that day time continence was gained in 70% of the patients between 8 to 14 years old, meanwhile, nocturnal enuresis persisted up to 20 years of age in most of the patients.

The functional urinary bladder capacity was normal in 50% of the patients, 25% showed decreased functional capacity less than 25% of the expected for age, while the remaining 25% showed severe diminished capacity less than 50% for the expected capacity for age. Urodynamics showed diminished sensation in most of the patients 88%, hypocompliance was present in 76.5% (26 patients) , 13 patients had severe hypocompliance with DLPP> 40 cmH2O, the rest of the patients had modearate hypocompliance with EFP between 26 to 38 cmH2O.

Fifty percent of the studied patients had detrusor overactivity, symptomatic high amplitude detrusor overactivity was evident in 25% of the patients, the remaining 25% showed low amplitude detrusor overactivity of no clinical significance. Stress leakage was not present in any of the patients. Good sphincteric function is expected in down syndrome patients.

Underactive bladder was evident in 24 patients (70.6%), 16 (47%) of them could not intiate voluntary voiding, with severe underactivity and solely depending on abdominal contractions for voiding. The remaining 8 patients showed moderate underactivity and could intiate voluntary voiding by abdominal contractions. With high residual urine up to 50% of the functional capacity.

Conclusions

Many of the down syndrome patients will require help to maintain the normal continence. Nevertheless, nocturnal enuresis may be the alarming sign for subtle lower tract dysfunction that may be hazardous to the kidneys. More than 70 % will require either CIC alone or CIC with anticholinergics.

Concluding message

Patients with down syndrome need close monitoring to assess the upper tract, and to improve their continence. Delayed continence and nocturnal enuresis should not be blamed on the cognitive state of the patient. Early assessment and interference for the patient with down syndrome will be crucial and may save them from upper tract deterioration and thus save them from the need for dialysis.