

DOES DETETHERING SURGERY FOR TETHERED CORD SYNDROME IMPROVE BLADDER FUNCTION

Hypothesis / aims of study

Tethered cord syndrome (TCS) is a neurological condition which lead to multiple neurologic symptoms including bladder dysfunction. Although there are several reports on the urodynamic findings of detethering for TCS in literature, the results are controversial. The aim of this study is to evaluate the bladder function with urodynamic outcomes after detethering surgery for TCS.

Study design, materials and methods

From 2009 to 2014, 41 patients were evaluated for analyses which underwent detethering surgery for TCS at our institution by a single experienced neurosurgeon. Only patients with both preoperative and postoperative urodynamic studies and voiding diaries were included to study. Four urodynamic parameters were selected for analysis: functional capacity (FC), cystometric capacity (CC), detrusor leak point pressure (DLPP) and the contraction pressure of overactive detrusor (POAD). Paired-Samples T Test and Wilcoxon rank sum tests were utilized to statistically compare the findings of voiding diary and urodynamics parameters between preoperative and postoperative state.

Results

Of the included 41 patients, (11 males, 30 females), the mean age at surgery was 8.5 ± 5.6 . Although no statistical significance was present, DLPP and POAD were decreased; FC and CC were increased in postoperative urodynamic findings (Table 1). Although one patient was diagnosed as hypocompliant bladder at urodynamic studies prior to surgery, postoperatively 2 patients were assessed as hypocompliant bladder. 16 of 32 OAB patients were assessed normal urodynamic findings after the surgery. Normal urodynamic studies were found in 8 patients at preoperative and 18 patients at postoperative state.

Interpretation of results

Findings of our study revealed that after detethering surgery for TCS on urodynamic study there were no statistical significant outcomes. However urodynamic diagnosis was improved half of the OAB patients. For this reason surgery may be effective on the bladder function and clinical symptoms of the TCS patients.

Concluding message

Success of the detethering surgery for TCS on the bladder function is debated. Our study revealed that surgery for TCS is inadequate for the improvement of the bladder functions in urodynamic parameters, however normal urodynamic diagnoses were achieved at the half of patients OAB. Urodynamic study should be performed before and after surgery for assessment of surgical success.

	Preoperative	Postoperative	p
	Mean±sd	Mean±sd	
Functional Capacity (mL)	323,3±152,2	328,18±180	0,896
Sistometric Capacity (mL)	210,6±143,8	232,8±146,6	0,237
POAD (cmH ₂ O)	36,07±31,5	34,9±44,4	0,874
DLPP (cmH ₂ O)	22,1±32,5	17±23,9	0,388

Table 1: Comparison of preoperative and postoperative urodynamic outcomes

Disclosures

Funding: There are no financial or commercial interests. **Clinical Trial:** Yes **Public Registry:** No **RCT:** No **Subjects:** HUMAN **Ethics not Req'd:** it is a retrospective study and we use only our urodynamic records. **Helsinki:** Yes **Informed Consent:** No