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Title (type in CAPITAL LETTERS)	EVALUATE OF BETHANECHOL SUPERSENSITIVITY TEST BY USING WATT FACTOR (CONTRACTILE RESPONSE)

Objectives

Bethanechol supersensitivity test has been used to diagnose denervation of pelvic nerve, which is usually associated with reduction of bladder contractility on voiding. Watt Factor (WFmax) is useful to evaluate the change of bladder contractility. We tried to evaluate whether the measuring Watt Factor (WF) before and after bethanechol test was useful to know the response of bethanechol chloride to bladder.

Patients and Methods

We recruited 16 patients with under-active bladder due to various underlying neurological diseases. Bethanechol test was performed with subcutaneous administration of 2.5mg bethanechol chloride after filling of 100ml of water into the bladder. Positive bethanechol test was defined as increase in intravesical pressure over 15cm H₂O pressure during 30 minutes observation (according to Lapedes' method). We also did standardized urodynamic evaluation (water cystometry, pressure-flow study used 8Fr catheter, and measurement of residual urine volume) and calculation of WFmax before and after the test.

Results

Eight patients had positive bethanechol test (Group 1) and the other eight patients had negative test (Group 2). In Group 1, residual urine volume was significantly decreased ($P < 0.01$) and WFmax was significantly increased after the test ($P < 0.01$). In Group 2, no significant changes were seen. Maximum urinary flow rate and maximum detrusor pressure during voiding were not significantly changed before and after the test in both groups.

Conclusion

Present study showed that patients with positive bethanechol test (Group 1) tended to have increased intravesical pressure on cystometry after the test, increased WFmax and decreased residual urine volume. The results seem to indicate that small amount of bethanechol chloride increased in the bladder contractility through denervation supersensitivity. We could speculate that patients with positive bethanechol test might be better candidates of oral bethanechol chloride for under-active bladder.