

EFFECT OF AGE ON DETRUSOR MUSCLE RESERVE IN ADULT MALES: A CLINICAL STUDY

Hypothesis / aims of study

Detrusor Muscle reserve (DMR) allows the bladder to overcome increased outflow resistance. Early evaluation of DMR helps detecting weak bladder before decay of the muscle power due to irreversible damage occurs. Evaluation of DMR in males > 40 years is most important as this age group is the most vulnerable to the effects of outflow obstruction. This study aims to evaluate the effect of age on Detrusor Muscle Reserve in healthy adult males

Study design, materials and methods

60 adult male volunteers were included in this study. They were divided into two groups. Group I were < 40 years and group II were 40- 60 years old. Exclusion criteria were Qmax < 15 ml/sec or obstructive urinary symptoms. All candidates underwent a non invasive urodynamic test to evaluate DMR. They were asked to void through a condom catheter attached to a vertical glass tube of 10 cm height above the symphysis pubis into a uroflowmeter. Serial voiding tests were repeated at increasing heights of 20,30,40,50 and 60 cm, once daily. Qmax was compared for each patient with his own initial uroflowmetry. Post void residual (PVR) was assessed after each test. Results of both groups were compared.

Results

All candidates were able to complete the test without complications. Qmax was insignificantly lower in group II at initial uroflowmetry (P=0.97). Mean Qmax declined progressively with increasing outflow resistance in both groups. Still no significant difference was found between both groups. Only at 60 cm height resistance in group II, mean Qmax was below 15 ml/sec (14.2 ml/sec). PVR was almost similar in both groups at the start of the test (P=0.317). PVR progressively increased in both groups, but was significantly higher in group II at all levels of resistance. Significant mean PVR > 50 cc was found in group I only at 60 cm height resistance, but was found at levels 40, 50 and 60 cm height resistances in group II.

Interpretation of results

Older men (>40 years old) tend to have lower Detrusor Muscle Reserve than younger adult males, even if they do not complain of urinary obstructive symptoms. The initial difference was shown in PVR before any significant difference in Qmax occurs.

Concluding message

This clinical study proved by a non invasive test the effect of age on deterioration of Detrusor muscle reserve in healthy non complaining adult males.

Disclosures

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