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Title: COULD ULTRASTRUCTURE OF DETRUSOR BE USED AS A DIAGNOSTIC MODALITY OF BENIGN PROSTATIC HYPERPLASIA ?

Aims of Study :

We examined the ultrastrctural changes in bladder outlet obstruction and detrusor instability of the patients with benign prostatic hyperplasia. And determine whether these changes can provide advanced management of the patients with benign prostatic hyperplasia in clinical setting.

Methods :

A total of 21 endoscopic detrusor biopsies was obtained from elderly males grouped following symptom scores and urodynamic evaluation into those with normal aging bladder, bladder outlet obstruction and bladder outlet obstruction with detrusor instability. Blinded to clinical information, detrusor biopsies were evaluated by an anatomist familiar with electron microscopy. The observations and diagnoses made were subsequently correlated with clinical manifestation and urodynamic findings.

Results :

Of the 21 cases 6 were normal, 8 had bladder outlet obstruction and 7 had bladder outlet obstruction with detrusor instability. The bladder outlet obstruction group shows variable shapes and sizes of myocytes, and widened intercellular spaces containing abundant collagen, so called myohypertrophy pattern correlated. The bladder outlet obstruction with detrusor instability group shows dominant muscle cell contact in the form of protusion junctions, these pattern was superimposed on myohypertrophy. After bladder outlet obstruction was relieved surgically, postoperatively measured symptom score of bladder outlet obstruction with detrusor instability group was higher than bladder outlet obstruction group. The elderly normal aging detrusor is ultrastructually normal, except for one subtle feature, the dominant dense-band pattern.

Conclusions :

Ultrastructure of the detrusor corresponds to its clinical diagnoses. And these ultrastructures are valuable in understanding the pathophysiology of voiding dysfunctions in benign prostatic hyperplasia. But, from a diagnosis of benign prostatic hyperplasia, endoscopic detrusor biopsy is invasive and still do not more informative than traditional diagnostic modalities. So, it is still considered as a investigational modality in diagnosis of benign prostatic hyperplasia.