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Title (type in CAPITAL LETTERS)	INTERFERENCES OF FLUID OSMOLALITY IN VESICAL PARAMETERS DURING URODYNAMIC EXAMINATION

INTRODUCTION AND OBJECTIVES: To evaluate possible interference of different osmolalities on bladder sensitivity, on the presence and intensity of detrusor hyperactivity and compliance.

METHODS: Thirty three patients, 24 males and 9 females with lower urinary tract symptoms were submitted to a double-blind study, with two consecutive cystometograms with hypotonic (100 mOsm/liter) and hypertonic (1000 mOsm/liter) solutions of sodium chloride. A technician prepared these solutions without revealing their constitution, and the sequence of administration was by chance. The results were analyzed regarding volumes and pressures at first filling sensation, normal voiding sensation and capacity; distention at bladder involuntary contractions and their amplitudes; and bladder compliance. The values obtained were submitted to statistical analysis by Fisher Exact Test, with $p < 0,05$ of significance.

RESULTS: The volume at first filling sensation were similar at the first cystometogram (147,0 ml average) and the second (173,5 ml average), no matter the solution utilized ($p > 0,05$). Comparison of hypertonic and hypotonic solutions were similar for the volumes at the first sensation. The normal voiding sensation occurred at an average of 256,2 ml at the first cystometrogram and 297,7 ml at the second, without differences ($p > 0,05$). Again, the two solutions promoted sensation at similar volumes. Intra-vesical pressures were similar in all these situations. The same 12 patients presented bladder hyperactivity at the first filling and at the second. There was no difference on the volume when the contractions occurred and the maximal pressures achieved using hypotonic and hypertonic solutions ($p > 0,05$). The hypertonic solution promoted a smaller bladder compliance in younger than 40 years old (31,7 ml/cmH₂O) compared to older patients (50,2 ml/cmH₂O) and in female (31,2 ml/cmH₂O) compared to male (64,1 ml/cmH₂O) ($p < 0,05$).

CONCLUSIONS: Extremes of osmolality represented by solutions of 100 mOsm/liter and 1000 mOsm / liter of NaCl, did not alter bladder behavior regarding sensations, intra-vesical pressures and presence and intensity of bladder hyperactivity. The compliance was reduced in young and female patients in the presence of a hypertonic solution, when tested in a double-blind study.