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CONSECUTIVE CYSTOMETRIES DURING THE SAME SESSION USING 0.9% NORMAL SALINE (NS) FOR TWICE AND 0.2M POTASSIUM CHLORIDE (KCL) IN WOMEN WITH INTERSTITIAL CYSTITIS/ PAINFUL BLADDER SYNDROME (IC/PBS)

Hypothesis / aims of study

Recent research has suggested that in healthy volunteers, if cystometry is repeated with 0.9% NS during the same session, the bladder volumes tend to increase by 30-50 ml, and it is the similar findings in the neurogenic bladder patients. Other researchers have proposed that a comparative assessment of cystometric capacity using 0.9% NS and 0.2M KCL suggesting that a decrease in maximum cystometric capacity of more than 30% with KCL compared to NS is indicative of IC/PBS. The aim of our study is to explore differences of the IC/PBS patients in urodynamic findings between consecutive 0.9% NS and 0.2M KCL instillation.

Study design, materials and methods

This is a prospective study for all the urodynamic studies that were done for female patients with IC/PBS symptoms in one center. IC/PBS patients who were compatible with the NIDDK criteria were included and the urodynamic findings were reported by one physician. After thorough counseling, informed consent for consecutive cystometry with NS and KCL was obtained.The patients are subdivided in to two groups. Group 1 consisted of 80 women that 2 consecutive cystometries with NS and KCL were performed. Group 2 consisted of 22 women that performing 3 consecutive cystometries with 0.9% NS for twice and 0.2M KCL. On filling cystometry we recorded and examined variability between volume at first desire to void (FDV), normal desire to void (NDV), strong desire to void (SDV) and maximum cystometric capacity (MCC).

Results

In table 1 the differences in mean values between 2 group and consecutive filling cystometry was showed. In table 2 the systematic change between 1st NS filling cystometry, 2nd NS filling cystometry and filling cystometry with 0.2M KCL.

Table 1 Urodynamic findings in 2 groups

	Group 1 (n=80) Mean (±SD)	Group 2 (n=22) Mean (± SD)
Filling cystometry- 1st		
FDV	90.85 (±52.35)	66.95 (±27.62)
NDV	120.16 (±58.96)	92.50 (±30.66)
SDV	173.92 (±90.53)	118.50 (±41.32)
MCC	238.67 (±114.16)	168.90 (±61.37)
Filling cystometry- 2nd		
FDV	Not practice	92.50 (±43.41)
NDV	Not practice	131.04 (±49.85)
SDV	Not practice	165.18 (±67.94)
MCC	Not practice	211.63 (±101.21)
Filling cystometry- KCL		
FDV	96.53 (±70.95)	78.81 (±52.65)
NDV	129.47 (±75.95)	108.90 (±62.59)
SDV	173.58 (±94.84)	129.04 (±65.46)
MCC	214.00 (±103.67)	165.68 (±75.89)

Table 2 Systematic change between group 1 and group 2

	Group 1 (n=80) change (KCL-1st) Mean (±SD)	Group 2 (n=22) Change (2nd -1st) Mean (±SD)	Group 2 (n=22) Change (KCL -2nd) Mean (±SD)
ΔFDV	+5.28 (±62.53)	+32.00 (±54.47)	-15.21 (±52.35)
ΔNDV	+8.33 (±66.03)	+44.60 (±53.21)	-23.00 (±39.64)
ΔSDV	-1.69 (±55.11)	+50.13 (±53.95)	-35.56 (±39.72)
ΔMCC	-27.36 (±79.94)	+45.52 (±58.05)	-49.00 (±58.51)

Interpretation of results

Our study shows that the volumes in group 2 at FDV, NDV, SDV, and MCC increased significantly from the first NS instillation to the second measurement, by 32.00 mL, 44.60 mL, 50.13 mL, and 45.52 mL respectively. In addition the volumes in group 2 at NDV, SDV, and MCC decreased significantly from the second NS instillation to the KCL measurement except FDV. However, the volumes in group 1 at MCC decreased significantly by 27.36 mL from NS to KCL with no significant change at FDV, NDV, and SDV. The results indicate that in IC/BPS patients if filling cystometry repeated during the consecutive NS instillation the bladder capacity tended to increase.

Concluding message

Similar to those seen in normal volunteers, IC/PBS patients have increased bladder capacity around 32.00 mL to 50.13 mL during the consecutive cystometries with normal saline from first to second. The urodynamic study is not a definitive diagnostic tool for IC/ PBS but it seems more significant decrease with mean value 49 mL with 3 consecutive cystometry from second normal saline to 0.2M KCL than dual cystometry.

References

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