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SIGNIFICANCE OF UPPER TRACT ABNORMALITIES IDENTIFIED ON ULTRASOUND DURING FOLLOW UP OF NEUROGENIC BLADDER PATIENTS

Hypothesis / aims of study

The patients with spinal cord injury require life long follow up for management of the neurogenic lower urinary tract dysfunction (NLUTD) (1). There is no single investigation for following up this group of patients. Generally, ultrasound (USS) imaging of the renal tract is the baseline study (2), which dictates the sequence of further investigations. However, the predictive value of this examination to detect lower urinary tract abnormalities in NLUTD patients is not known. We present our experience with USS identified upper tract abnormalities.

Study design, materials and methods

We retrospectively analysed the abnormalities identified on routine follow up ultrasound of renal tract of our patients with NLUTD over a 2 years period. All patients subsequently underwent MAG3 renograms and videourodynamics (VCMG). We evaluated the relationship of upper urinary tract abnormality on USS to the findings of VCMG and MAG3.

Results

We identified 27 patients who had upper urinary tract abnormality on USS. The mean age was 46years (range18-82), male to female ratio was 3:1 . 22 patients had spinal cord injury, 3 spina bifida, 1 transverse myelitis, and 1 post-sacrectomy. 8 patients had hydronephrosis, 19 had dilatation/fullness of collecting system. Four of 8(50%) had upper urinary tract obstruction proven on MAG 3 scan, while one had vesicoureteric reflux on VCMG. 2/19 (10.5%) with dilatation/fullness had obstruction on MAG3. whilst, 4/19 (21%) had vesicoureteric reflux on VCMG. 5/8 (62%) with hydroneprosis, whilst 6/19 (31%) patient with dilatation/fullness had an abnormality. Overall, 11/27 (41%) had some abnormality of the renal tract.

Interpretation of results

We conclude that an abnormal ultrasound of the renal tract in asymptomatic patients with NLUTD is reflective of a renal tract abnormality in almost half the patients. These patients require further investigations for assessment of obstruction and reflux.

Concluding message

We suggest that ultrasound abnormalities identified on routine follow up should be investigated with both VCMG and MAG3 scans.

References

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Specify source of funding or grant	**None**
Is this a clinical trial?	**No**
What were the subjects in the study?	**NONE**