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Preoperative urodynamic evaluation of spina bifida in neonates: a preliminary clinical study

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Introduction: Neurological injury starts from antenatal period in spina bifida. The aim of this study was to evaluate the urodynamic findings of neonates with spina bifida, preoperatively, in order to determine the properties of congenital injury in these patients.

Patients and Methods: The urodynamic reports of patients for whom the study was done with the diagnosis of neuropathic bladder dysfunction, retrospectively. Only the reports of patients who were born with spina bifida and an urodynamic study could be done before the closure of the defect were included in the study. Age, sex and urodynamic findings including postvoid residual urine, leak point pressures, capacity, compliance, detrusor and sphincter activities were noted.

Results: A total of 511 urodynamic study was done with the indication of neuropathic bladder dysfunction in our unit in a two years period. Preoperative urodynamic evaluation was done in six patients. A postoperative comparative urodynamic study could be done in four of these patients. All patients were female and preoperative evaluation was done at a mean $9,7 \pm 10,9$ days. The postvoid residual urine was below significant levels in all patients. Leak point pressures were mean $43,8 \pm 22$ cmH₂O, bladder capacities were mean $20 \pm 10,7$ ml. Compliance was normal in all patients. The detrusor activity was found to be overactive in all patients and sphincter activity was overactive in all but one patient.

Conclusions: The neuropathic bladder dysfunction is a congenital injury in patients with spina bifida. Overactive detrusor and detrusor sphincter dyssynergia type bladder activity seems to be the dominant type of dysfunction. Leak point pressures in these patients are relatively low. Routine postoperative follow-up with larger patient groups is mandatory to delineate the evolution of neurogenic injury in these patients.