



Service Priorities and Programmes
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**ABNORMAL URODYNAMICS IN CHILDREN WITH OCCULT SPINAL
DYSRAPHISMS**

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Introduction

Occult spinal dysraphism (OSD) occurs in 0.1% and 1.4% of asymptomatic and enuretic children respectively. Deranged bladder dynamics can occur before onset of urological symptoms.

Objectives

In this study, we determine the prevalence of abnormal urodynamic parameters in children with OSD.

Methodology

All patients aged below 18 years with magnetic resonance imaging (MRI)-confirmed OSD from 2011 to 2013 in a single centre were recruited. A double-lumen suprapubic bladder catheter was inserted one day before the urodynamic study. Natural-filling and conventional-filling cystometry with cutaneous perineal electromyography (EMG) recording were performed. Abnormal urodynamic parameters including detrusor overactivity, increased post-void residual urine, abnormal cystometric bladder capacity, poor bladder compliance and urethral sphincter EMG overactivity were measured and analyzed.

Result

12 children with OSD (8 boys and 4 girls), aged between 6 months and 11 years (median age of 16 months) had urodynamic studies performed before surgical intervention. 10 children (83%) had abnormal bladder dynamics. Of these, 100% had normal plasma renal function tests, and 80% had no urological symptoms at the time the urodynamic study was carried out. 5 children had detrusor overactivity (42%), 5 had poor bladder compliance (42%), 3 had increased post-void residual urine (25%), 2 had small bladder capacity (17%) and 1 had urethral sphincter overactivity (8%). 5 children (42%) had more than one abnormal urodynamic parameter. 5 children (42%) had significant derangement in urodynamic parameters, whilst the remaining 5 (42%) had minor urodynamic derangements. Despite being asymptomatic, the majority of children with OSD have deranged urodynamic parameters before surgical intervention and half of the abnormalities were significant. Urodynamic study is a

useful tool with which to detect the presence of subclinical neurogenic bladder before they become clinically manifest, to allow for earlier diagnosis and treatment.