

# Neurogenic bladder dysfunction revisited; the risk on upper urinary tracts

Volume 1 Issue 6 - 2014

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**Abbreviations:** NBD, neurogenic bladder dysfunction; CNS, central nervous system; DSD, detrusor sphincter dyssynergia; SBO, spina bifida occulta

## Editorial

The most common cause of Neurogenic Bladder Dysfunction (NBD) is meningomyelocele. However, NBD can result to CNS at any level. Other reasons behind Neurogenic Bladder Dysfunction include spina bifida occulta (SBO), sacral agenesis, lipomeningocele and tethered cord.<sup>1-4</sup> The average worldwide incidence of spina bifida is 1 case per 1000 births, but marked geographic variations occur. The chance of having a sibling with the same condition is about 3-5% if the myelomeningocele is present in one child in a family. Folic acid deficiency appears to increase the incidence of having a child with spinal dysraphism.<sup>5</sup>

The upper urinary tract at birth in most newborns with spina bifida is normal. Without adequate management, the majority will develop bladder-wall and renal changes.<sup>6,7</sup> Escalating renal damage is due to high detrusor pressures both during the filling and voiding phases of bladder cycle as well as detrusor sphincter dyssynergia (DSD).<sup>4-11</sup> Recurrent urinary infections happens in many patients with NBD, which can increase the risk for renal impairment. NBD-related kidney impairment is considered the cause of major long-term morbidity in these patients like hypertension.<sup>6-8</sup>

NBD must be treated as soon as possible after birth following closure of the back lesion to prevent renal damage.<sup>9,10</sup> Considerable progress has been made in the management of children with the NBD over the past few decades.<sup>1,2,6,11-13</sup> These advances are primarily due to the introduction of clean intermittent catheterization (CIC), discovery of newer medications as well as the engagement of urodynamics study during infancy.<sup>11,14-16</sup> The use of a multidisciplinary team management approach with records and electronic data transmission have made it possible to both safely and remarkably protect the upper urinary tract, and improve the patient's outcome and quality of life. This multidisciplinary team includes pediatricians, urologist, neurosurgeon, orthopaedic surgeons, nephrologist, and physical medicine and rehabilitation workers.<sup>17</sup>

## Acknowledgments

None.

## Conflicts of interest

Author declares there are no conflicts of interest.

## Funding

None.

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