

## RESULTS OF FETAL TREATMENT OF MYELOMENINGOCELE

Bohosiewicz J.<sup>2</sup>, Koszutski T.<sup>2</sup>, Zamłyński J.<sup>1</sup>, Olejek A.<sup>1</sup>,  
Pastuszka A.<sup>3</sup>, Stołtny A.<sup>2</sup>

<sup>1</sup> *Medical University of Silesia. School of Medicine with the Division of Dentistry in Zabrze. Chair and Clinical Department of Gynecology, Obstetrics and Onkologic Gynecology*

<sup>2</sup> *Medical University of Silesia. School of medicine in Katowice. Department of Pediatric Surgery*

<sup>3</sup> *Medical University of Silesia. School of Medicine with the Division of Dentistry in Zabrze. Chair and Department of Anatomy*

**Introduction.** Myelomeningocele is the most common developmental malformation of central nervous system. In consequence paralysis of muscle, very often hydrocephalus and bladder and anal canal dysfunction appears. Basing on «two hit theory» fetal surgery of MMC can improve the postnatal status of the child. American experiences confirm this conclusion.

**Purpose.** Analysis of the results of fetal treatment with MMC performed in Medical University of Silesia in Katowice, Poland.

**Research methods.** 74 fetal surgery procedures were performed during ten years between 2005-2015. The surgery was done from 21 to 26 Hbd. Perioperative mortality, condition after birth, the valve-dependant hydrocephalus at the age of 12 months and motoric status at the end of 24 months were analysed and presented. The control group were neonates with MMC operated after birth by the same group of pediatric surgeons.

**Conclusions.** Prenatal surgery of MMC diminish the necessity of valve installation, improve the motoric status but is connected with early birth and higher perioperative mortality.

## MODERN ASPECTS OF NEUROMUSCULAR DYSFUNCTION OF THE BLADDER IN CHILDREN

**Danylov A., Shevchuk D.**

*P.L. Shupyk National Medical Academy of Postgraduate Education,  
Kyiv, Ukraine Zhytomyr Regional Children Clinical Hospital, Ukraine  
Zhytomyr State University named after Ivan Franko, Ukraine*

Neuromuscular dysfunction of the bladder (NMDB) – multifaceted disease whose main manifestations is a violation of accumulation and/or evacuation bladder function requires careful diagnosis and long-term comprehensive treatment, which is not always quite effective. Particularly noteworthy refractory

NMDB in children. The most common causes of dysfunction mainly consider congenital malformations (myelodysplasia, extrophy/epispadias etc.). In the US myelodysplasia occurs with a frequency of 1 in 1000 births and in 95% of cases accompanied NMDB [11]. While 30% of children with disorders of voiding in case myelodysplasia to primary surgery had urodynamic disorders and other complications associated with spinal cord defect [8]. The big problem is the condition in those countries where the law prohibits abortion even in the case of antenatal diagnosed anomalies of the spine and spinal cord (e.g., Poland). Each year in the United States for treatment NMDB spent 26.3 billion dollars, indicating that the huge economic importance of this disease [14].

These aspects of the disease, the lack of standardized whole complex (except conservative therapy) treatments determine the relevance of the search for additional methods of complex treatment NMDB.

Increasingly conduct research activities on urinary incontinence, more common takes neurolology. Searching methods treatment of this disease, which would enable to achieve long-term normalization of voiding that contributes to the physiological and social adaptation patient [5, 10].

The study protocol NMDB children should consist of ultrasound of the kidneys and SM voiding cystography and urodynamic research. Some authors suggest benefits performance uroflowmetry at home that makes it possible to get the best results of the study [6]. If a combination of neurogenic dysfunction of recurrent urinary tract infection should conduct DMSA to determine the degree of kidney damage. Great importance is attached neuroimaging methods of diagnosis of pelvic floor (CT and MRI).

So, determined that only 37.2% of children with myelodysplasia have renal disease, and 78% of those who observed pathology of the upper urinary ways had bladder-ureteral reflux (mostly high degree) [4, 7, 9, 12].

Given the nature NMDB, it should be noted that in 37% of cases – a lack of sphincter apparatus of urine bladder and deficit its capacity, 22% – only lack of sphincter apparatus, 11% – high pressure in bladder background spastic contraction sphincter, 4% – detrusor overactivity in 26% of patients causes urinary incontinence were mixed. Revealed that 69.4% of patients with urinary incontinence myelodysplasia [2, 7]. Other authors emphasize that urodynamic studies indicate that 62% of patients with myelodysplasia with detrusor contraction and discoordination sphincter, and in some cases sufficient to apply permanent catheterization and anticholinergic drugs. In 45% of patients observed violations locking properties sphincter [5].

Violations urine bladder innervations leads to severe hypoxic changes its walls that worsens impact of drug use means for correcting the pathology urodynamics [5, 9].

Results of treatment of patients with NMDB indicate the need for an integrated approach to problem-solving treatment of severe urinary incontinence in children. The most important aspect NMDB treatment – is prevention of kidney

damage. The effectiveness of neurosurgical treatment of urinary incontinence during myelodysplasia achieved only in 28.6% of cases [3, 9].

Only 22.1% for patients with myelodysplasia social adaptation rather complex conservative treatment, patients need rest various surgical correction (not only urological but neurosurgical) [9]. Others authors [1, 5] argue that the positive effect conservative therapy can achieve in 72% of patients, but this positive effect is regarded as an adequate preoperative preparation. Some authors emphasize that in the absence effect of conservative therapy NMDB children with myelodysplasia for 18 months there is a need in the surgical treatment of defects [7].

By the choice of surgical treatment should be approached strictly individually, taking into account the type of incontinence, a condition wall NMDB and central nervous system treatments which were applied in individual patients [13].

Thus, for successful treatment NMDB, particularly in myelodysplasia required hard work urologist, and it is very useful collaboration with neurosurgeon. Only when patients and/or their relatives aware of the need, importance and complexity of surgical treatment NMDB then can be a satisfactory outcome.

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## **RESULTS OF LAPAROSCOPIC TREATMENT OF VARICOCELE IN CHILDREN AND ADOLESCENTS**

**dr Ewa Matuszczak, prof. Wojciech Dębek**

*Klinika Chirurgii Dziecięcej Uniwersytetu Medycznego w Białymstoku*

**Aim of this study.** Evaluation of the results of laparoscopic treatment of patients with varicocele using Classic Palomo method.

**Material and methods.** Authors performed a retrospective evaluation of medical records of 96 patients treated surgically because of left-sided varicocele between 2000–2014. In all patients, an ultrasound examination of the abdominal cavity and testicles, and basic laboratory tests were performed.

The imaging studies showed that there was no deviation from the normal condition beyond the widened veins of the pampnute plexus. 83 patients underwent laparoscopic intersection of testicular vessels by Palomo method. 2 patients underwent classic Palomo surgery – testicular vessels were ligated with inguinal reach.

**Results.** Among the 85 patients who underwent surgery, 4 (5%) patients had recurrence of varicocele. Patients with persistent widening of veins were subjected to laparoscopic reoperation. Reoperation took place 7, 14, 33,66 months after first surgery. The most common complication of varicocele surgery was hydrocele of testicle, found in 9 (10 %) patients. These patients underwent surgery using Winkelmann method with good result. 2 (2%) patients with small hydrocele were treated conservatively.

**Conclusions.** over the years 2000–2013 authors observed the decrease in the number of relapses after laparoscopic surgery of varicocele. Most likely, this