MULTICYSTIC RENAL DYSPLASIA IN CHILDREN. CLINICAL-PARACLINICAL SPECIFICS. CLINICAL PRESENTATION FEATURES

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Abstract

The aim of the study is to investigate the clinical-paraclinical features, especially imagistic, morphopathological, in the diagnosis of multichistic renal dysplasia in children, especially in asymptomatic forms and therapeutic approaches to this subject.

The study refers to a group of 33 children with multiple urinary tract dysplasia (MUD) complicated with urinary tract infection 2009-2017. The authors present their own experience on the clinical-morphological diagnosis and treatment during the given period. It emphasizes the need for a differential diagnosis for choosing the optimal therapeutic solution. Multidisciplinary renal dysplasia in the child is a congenital kidney malformation due to embryonic disturbances, diagnosis being determined by the ultrasound examination during the intrauterine development of the fetus in the antenatal screening programs.

Key words: multicystic kidney, clinical-morphological examination, children

Introduction

Multicystic renal dysplasia (MRD) is a rare congenital abnormality, occurring in 1.1% of all renal and urinary abnormalities [1]. According to some studies, the incidence of MRD varies between 1: 3500, 1: 4000 live newborns [2]. Bilateral multicystic affection has a frequency of 1: 3600 newborns. In 55% cases the left kidney is affected, and in 45% - the right kidney [3]. The antenatal screening data compared to the neonatal one reveals MRD as a vicious disease of the reno-ureteral system encountered in fetuses, may be present both unilaterally and bilaterally and the latter is frequently incompatible with life. By gender, MRD is considered to be a higher predominance in male 2:1, a more frequent impairment of the left-sided ureteral complex [4].

Due to the mandatory use of ultrasound screening methods during the perinatal period, including the urinary system, perinatal ultrasound diagnosis has led to the detection of malformations at much earlier periods. On ecography MRD is described as a kidney malady without renal parenchyma, presenting multiple cystic formations of different size and number, filled with liquid that do not communicate with each other, forming a cystic pseudotumor with irregular shape. In the unilateral form, MRD is attested as a renal-ureteral dysplastic complex with an attenuated ureter, whereas the contralateral complex, attesting a well-functioning reno-ureteral system. Some studies reveal the MRD ureter, more commonly, as a hypoplasic ureter, atrestic or even totally absent, sometimes associated with vesicoureteral reflux, or the vesicoureteral reflux may also be present in the contralateral kidney, features encountered in 15-30% of patients [1,2]. According to the morphopathological studies, the cystic structures are cuboid epithelium-cladded, containing transparent liquid, but sometimes also reddish or brown. The cyst walls contain fibrous tissue, sometimes with hygienic sectors with calcinated islets. Embryologically, an abnormality occurs during the fusion of the ureteral burr and distal countersunk tubes. In some cases, the ureter may remain obstructed for much of its length [5]. The spectrum of other urinary tract abnormalities reported in association with the multicystic dysplasia kidney includes obstruction of the pituitary junction in up to 15% of patients and, less frequently, obstruction of the ureteral bladder junction, ureter and ureteral ectopia [2]. The ideal diagnostic approach for asymptomatic ureteral bladder reflux in patients with multicystic dysplasic kidney remains controversial.

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Fig.1. MRD: a) 1 - bilayer kidneys in conglomerates of thin-walled cysts; 2 - rudimentary pelvis with segmental ureter partially hypoplastic in the form of fibrous cord with well differentiated distal segment. *Anatomical postoperative sample*; b) 1 - kidney with multicystic conglomerate appearance with medium and giant volume cysts with microcysts in the wall area; 2 - hypoplastic ureter in the form of fibrous cord. *Anatomical postoperative sample*

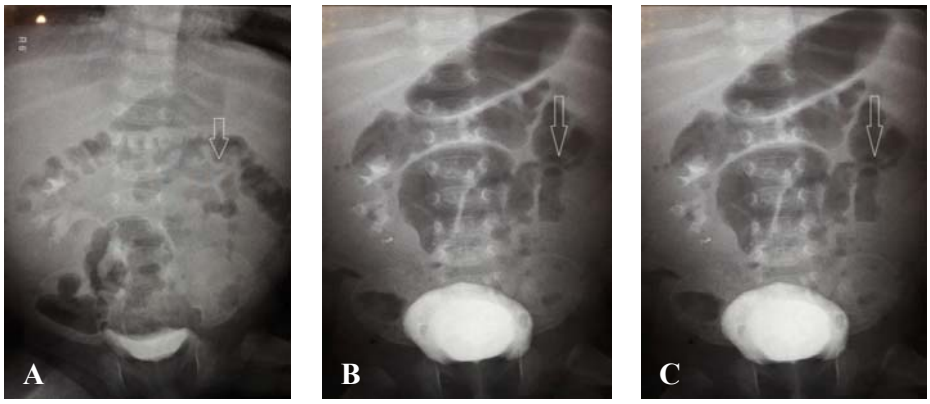

Fig. 2. Intravenous urography. A - after a 6-min exhibition: urographic uterine kidney on the left, preserved kidney function on the right; B- after a 40-minute exhibition. Urographic uterine kidney on the left, preserved kidney function on the right; C - after a 1.5 hour exposure, urographic left kidney, maintained kidney function on the right

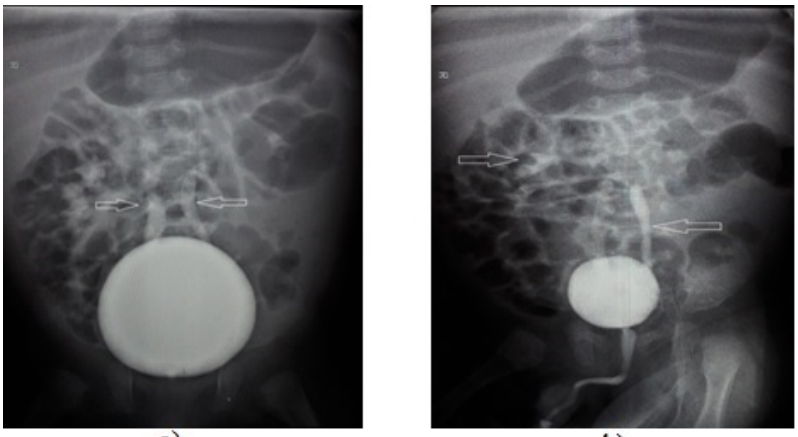

Fig. 3. Micturition cystourethrography. Bilateral vesico-ureteral reflux, III degree: a) passive; b) active

Considering the high incidence of ureteral bladder reflux in both the multicystic dysplastic kidney and the contralateral kidney, and the potential risk of infection-induced scarring and renal lesion in solitary cells, it is important to perform micturition cysturethregraphy during neonatal evaluation [6]. Simultaneously with the features mentioned in the literature, a much rarer form of MRD is described, such as hydrophonerotic, characterized by the presence of peripheral cysts, that communicate with a larger, centrally located cyst and do not open on the very dilated

The aim of the study is to investigate the clinical-paraclinical features, especially imagistic, morphopathological, in the diagnosis of multichistic renal dysplasia in children, especially in asymptomatic forms and therapeutic approaches to this subject.

Material and methods

This study included a sample of 33 children (13 girls and 20 boys) aged 7 days - 5 years with MRD diagnosis, including complicated urinary tract infection, who were treated at the Academician Natalia Gheorghiu National Center for Scientific and Practical Pediatric Surgery, Clinic of Pediatric Urology and Neonatal Surgery during 2009-2017, on the basis of biological samples collected according to the contemporary research principles, approved by the Research Ethics Committee of Nicolae Testemitanu SUMPh (favorable opinion of 13.05.2015, no.55).

Clinical-paraclinical investigations included anamnestic laboratory, imaging examinations: ultrasound, intravenous urography, retrograde cistouretrography, renal dynamic scintigraphy, computered tomography (CT) . Speaking about methods of examining and investigating the renal ureteral malformation, for all patients the initial method of urinary ultrasound and renal dynamic scintigraphy was used. Intravenous Urography (IVU) with contrast substance Verografin 3-4 ml / kg bodyweight in the newborn baby and 2-3 ml / kg body weight in the 3-5 year old child, as well as Retrograde Cistouretrography (R-CUG) were widely used. There have been taken into account the statements in the literature that MRD treatment begins with investigations that make the diagnosis, this claim wishing to emphasize the importance of early diagnosis, a determinant of therapeutic effectiveness. All children with definite diagnosis of MRD have undergone surgical treatment with postoperative monitoring. The anatomical-surgical parts were carefully examined post-operatively microscopically, using organometry and macrometry. After histological processing, photon microscopy was applied using conventional Hematology - Hemoglobin - Eosin (H & E) histological methods and selectively van Gieson (VG) in the estimation of conjunctival tissues features.

Results and discussions

The analysis of the obtained results, especially of the anamnestic and clinical data in the patients included in the study, revealed that in 23 (60.6%) of MRD cases, these lacking any specific clinical manifestations, the pathology being detected in the ultrasound examination routine or occasionally in the newborn. In 30.4% (10) of cases, pelvis. MRD etiopathogenesis is still under discussion; in the literature, it is more often explained as an embryo-fetopathy, but also the family syndrome as the hereditary aspects. Another side that contributed to the initiation of a study was the fact that the MRD etiopathogenesis, as well as its actual incidence, possible complications, or malignant degeneration, are not fully understood to date. Also the therapeutic approach to the malformation is still under discussion [7,8].

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patients experienced undiagnosed episodes of repeated urinary incontinence of acute pyelonephritis, with persistent chills in 3 children (9.1%), cloudy urine in 2 children (6.06%), vague abdominal pain with digestive manifestations in 5 children (15.1%). Clinical manifestations correlated with the presence of urinary tract infection (positive uroculture) constituted the decisive element in determining the indication of complete urinary tract investigation.

In 9.1% (3) of cases, the diagnosis of upper urinary tract abnormality associated with acute pyelonephritis was uncertain, the use of micturition cystureterography made the MRD diagnosis, leaving a combined MRD, in 3% (1) of cases the presence of vezico-ureteral reflux of Mixed I-II degrees in vicious multichistic kidney, with a frequency of 3.03% (1) of cases, bilateral vezico-ureteral reflux, mixed I-II degrees, and with a frequency of 1 (3.03%) of the cases, the presence of mixed bilateral vesico-ureteral reflux, III degree, being confirmed.

Retrograde filling cistoureterography, standard or late cluster, revealed passive reflux, and micturition cystoureterography allowed to establish retrograde urine passage to the kidneys (active reflux) and the intravesical obstruction. These explorations have been an integral part of initial imaging investigations in the establishment and differentiation of urinary tract infection. The presence of a parenchymal fixation defect has facilitated the diagnosis of pyelonephritis, but it also does not allow a distinction to be made between acute and chronic.

Intravascular urography in all patients under study revealed a lack of MRD kidney function, manifested by urographic "mutant" kidney, with retained function of the contralateral kidney. In 2 (6.1%) of patients intravenous urography had a number of radiological signs suggestive of kidney disease, such as segmental dilation of the ureter, ureter visible throughout its tract. Dynamic renal scintigraphy indicated the lack of dysplastic kidney function in MRD.

Laboratory studies indicated ESR, hyperleukocytosis, ferrites anemia, blood ionogram and moderately modified acid-base balance. The uroculture performed on all the children admitted in the study group identified germs responsible for urinary tract infection. The frequency of germs involved in urinary infections in patients with positive urocultures at admission was noted by E. coli in 3 children (9.09%), followed by Staphylococcus aureus in 2 children (6.06%).

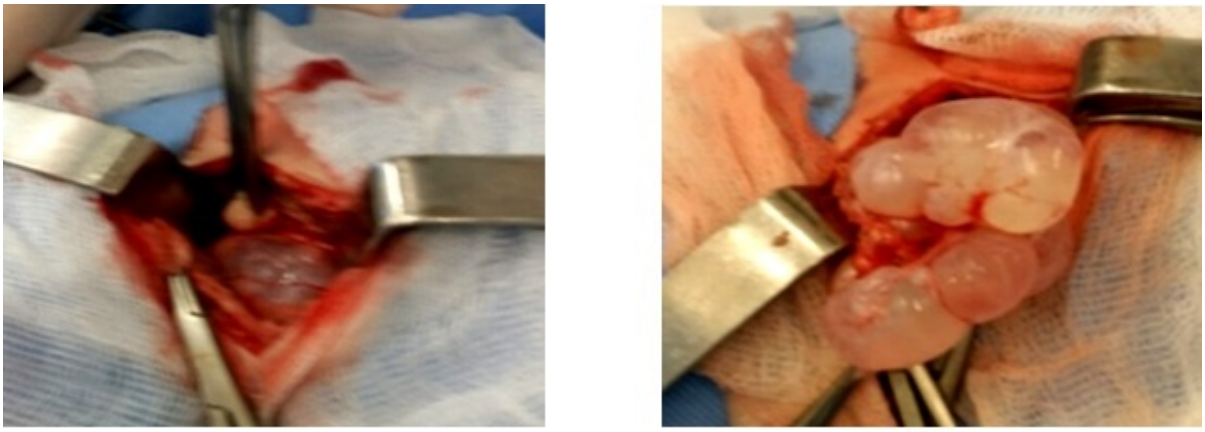

Fig.4. a). Dysplasic multicystic kidney in surgical wound: a) Macroscopic intraoperative aspect; b) Intraoperative aspect.

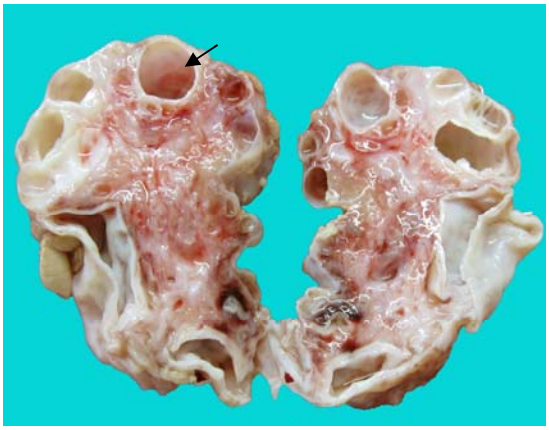

Fig.5. Macroscopic aspect of MRD absence of the pelvic and calcified system. *Anatomical postoperative sample*

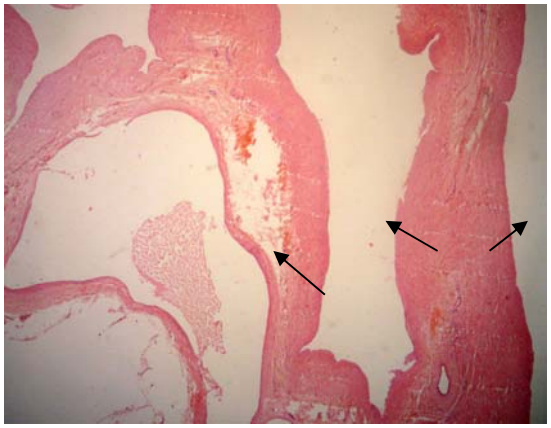

Fig.6. Multiple cysts with fibrous capsule and edema of interferic anefronial connective tissue ×25. H-E staining

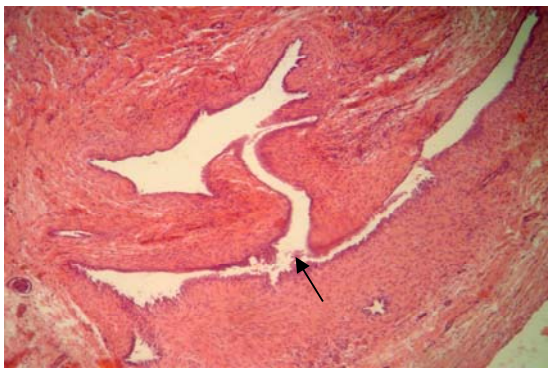

Fig.7. Rudiment of the pelvic and calcified system in the fissure aspect without serous contents × 25. H-E staining

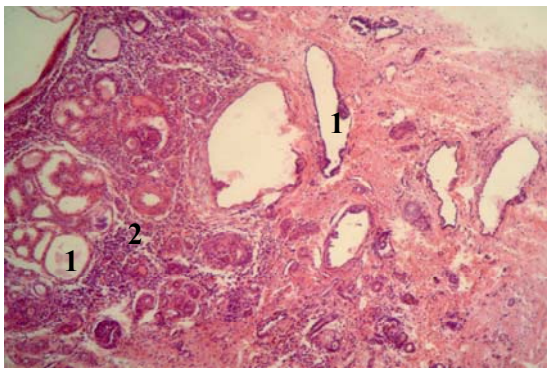

Fig.8. Mezenchimal tissue plates: 1) cystic nephronous islands dilated with cysts of tubular and glomerular origin; 2) Inflammatory polymorphic-cellular infiltration × 25. H-E staining

The results of investigations in the study group demonstrate the notion that there is no rational basis for waiting two, three or more episodes of urinary tract infection before making a decision to investigate a child to exclude or detect a kidney malformation, especially MRD in young children.

Children with mixed vesicoureteral reflux, I-II degrees and mixed III degree, have benefited from a complex conservative medical treatment that aimed to combat urinary infection and to ensure a free urine drainage from upper to lower urinary ways, restoration of bladder function, at the inefficiency of conservative treatment, the last one was followed by surgical treatment.

Surgical treatment by nephrectomy on the dysplastic multicystic kidney was performed with all children with MRD, and in the case of association of vesicoureteral reflux on this kidney, suppressed ureteric ureterectomy ipsilateral to affected kidney was performed.

In our observations, the morphopathology of the reno-ureteral complex in MRD varied in form, volume, the number of cystic formations, yet it was characterized by the cystic aspect with the presence of cystic formations of various dimensions, lined with serous content without communication, cubic epithelial wall. According to the assemblage of the kidney shape in MRD, it was characterized in 6.15% (2) of cases by the giant solitary cyst aspect of 4.2cm and 5.1cm at the base with the presence of a macroscopically multichannel parenchyma with a diameter of 0.2-0.6cm. With a frequency of 21.2% (4) of cases a multichistic bilobulus aspect being attested (fig.1). The most common form was MRD with a number of over 25-30 cysts with dimensions in the range of 0.8 - 2.5 cm with single cysts of 3 cm in diameter. The cystic wall is represented by sclerogenic connective tissue with scar aspects. The content of cystic cavities is often transparent with yellowish tones sometimes with cholesterol crystals. In the cystic wall there are pulvirulent calcifications.

In 69.7% (23) of cases among cysts in various ratios primitive nephron insulins, monstrous solitary glomeruli, dispersed or in small groups in a mesenchymal tissue mass, in one case small cartilage islets, were attested. Signs of the pelvis also did not appear, the ureter in 57.6% (19) of cases being present in the form of a solid cord at the level of the suspected kidney hill, diminishing in a mesenchymal, conjunctival mass, the vascular device practically being poorly developed and observed.

In 30.3% (10) of the cases (Fig.1 a), b)) among dispersed cysts the presence of a fibrous renal parenchyma with the appearance similar to the limit of the norm, as well as the presence of the deformed, hypoplastic, monstrous cystic nephron , the presence of dysplastic glomerular groups and various myocardial or muscle fractures, were attested. Some glomeruli were with hyaline, proliferative or glomerulo-cystose features. Within these modifications the rudiments of the basin (fig.1 a), b)) were present, lacking communication with the cystic formations or tubulo-neural components, in the testing by injecting of the hematoxylin into the ureter.

Another characteristic established in the results of the histological exploration within DRM was its presence in parallel with the vicious interstitial-non-chronic and cystic processes of the inflammatory process. Depending on the MRD type, the inflammatory process was attested with a frequency of 45.5% (15) of cases.

Thus, it is worth mentioning that the goal of MRD therapy, including vesicoureteral reflux on this kidney or the contralateral kidney, is to protect the single functional kidney from "scarring", to allow normal growth of renal parenchyma and to maintain normal renal function. It is proven that the therapeutic concept in single-kidney vesicoureteral reflux puts the medical treatment (prophylactic antimicrobial treatment) at the forefront, monitored by the monthly urine test for 3 months; if the urine normalizes, the exam is repeated after 2-3 months.

Medical treatment included prevention of the onset or progression of renal retractions, with their potential for progressive chronic renal disease, antibiotics, nitrofurans, antioxidants, nonsteroidal preparations. Medical treatment was followed by regular bacterial urine tests.

Postoperative monitoring of the patients included in the study, particularly those with single functional kidney reflux, included clinical evaluation, urinary echography, micturition cysturethrography, intravenous infusion urography in children up to 3 years of age, uroculture, renal scintigraphy.

Features of clinical case presentation

As an example, we present a newly diagnosed MRD case in patient C.E. aged 1.5 months, medical file no. 117965, male, born 11.XI.17, hospitalized in PHI Institute of Mother and Child, Academician Natalia Gheorghiu National Center for Scientific and Practical Pediatric Surgery, Chisinau, the Republic of Moldova, with complaints: the presence of vicious pathology of the urinary system, ultrasound examination during intrauterine development, confirmed later in the postnatal period by ultrasound of the urinary system with the diagnosis of MRD on the left, trembling of the chin, tremor of the lower limbs, vomiting.

Perinatal anamnesis: Third-born child, 7th pregnancy with a complicated obstetric anamnesis (3 pregnancies with spontaneous abortion at 3 weeks, 5 and 6 months, 1 medical abortion) and extragenital anamnesis characterized by recurrent pyelonephritis. Current pregnancy has evolved with imminence of abortion in the I-II pregnancy period. At 37 weeks of pregnancy, a congenital renal ureteral abnormality - renal polycysteosis, was diagnosed sonographically. The child was born with a weight of 3200, the waist - 52 cm, the cranial perimeter - 33 cm. At birth, being certified with Apgar score - 8 points.

Anamnesis morbi: The neonatal period was without any specific features and complaints. At 10 days of life, the child was repeatedly investigated by the ultrasound of the urinary system, establishing with certainty the presence of malformation of renal-ureteral complex on the left, characterized by the increased volume aspect up to 72x38mm, the absence of parenchyma being reflected by

multiple cystic formations. The reno-ureteral complex on the right detected a 52x24mm kidney with sonographically differentiated parenchyma, the 8.6 mm cortical layer. The child was in natural food. The child's body mass was 5640kg at the time of hospitalization. At the age of 1 month and 11 days, repeated vomiting occurred in child after each feeding, in large quantities, with cheesy milk. Subsequently the vomits were repeated twice.

Clinical specificity. On 23.XII.2017, the child was hospitalized in the pediatric surgical ATI department for examination. After paraclinical examinations (EFGDS) with initiation of treatment, vomiting did not occur again. Subsequently, in improving the general condition, the child was transferred to the newborn surgery. Objectively: The general condition of the child was attested as severe - medium, after the present pathology - severe. Teguments and mucous clean, pale - rosy. Heavy breathing in the lungs. Heartbeats - sore. Sensitive abdomen in lumbar region on the left.

Paraclinic laboratory specificity (of 01.12.17). The haemolegogram showed a decrease in hemoglobin and erythrocytes, an increase of unshed to 8%, indicating the persistence of an inflammatory process in children characterized by: hemoglobin 96, g / l, (norm b - 130.0-160.0, f-120.0-140.0), erythrocyte - 3.0x1012 / l, (b-4.0-5.0, f 3.7-7.7x1012 / l), leukocyte 5.1x109 / l, (norm – 4.0-9.0 x109 / l), hematocrit – 0.28% (norm b – 40.0m – 48.0%, f.-36.0 – 42.0%), platelets - 242 x (Norm - 1 - 6%), segmentations - 37 (norm - 47-72), eosinophile - 2 (norm - 0,5-5), lymphocytes - 51 (norm - 19-37), monocyte - 2 (norm - 30-11), VSH - 6 mm / hr. (norm - b-2-10, f. - 2-15). At the recommendation of the haematologist, the treatment for iron-deficient anemia has been initiated.

Biochemical Blood Test: Protrombinic Index - 85%, (norm - 70-130%), fibrinogen - 2.89 g / l (norm - 2.0-4.0 g / l), total protein -53 g / l (norm - 64-83), urea - 2.2 mmol / l (norm - 2.1-7.1 mmol / l), creatinine - 46 mcmol / l (norm - 53-115), total bilirubin - 30.0 mcmol / l (norm 1-17mcmol / l), ALAT -21 units / l (norm 1-49), ASAT - 38 units / l (standard - 1-46units / 3 mmol / l, (norm 3.5-5.3), 132 mmol / l sodium (norm - 135-148 mmol / l), 2.32 mmol / l (standard - 2.2-2.55 mmol / l) Fe - 12.9 mcmol / l (norm - 8.9 - 30). Blood Group Rh factor - B (III) Rh factor (+), POSITIVE. Summary urine examination: flat epithelium - 6-7 in the field of vision, leukocytes - 12-15 in the field of vision.

Functional Explorations (04.12.17): Electrocardiogram: vertical AE. Tachycardia. Neuro-sonography: Medium cerebral structures are not dilated; anterior horns - 2mm, ventricle III - 2mm;

Imaging specificity (04.12.17). Ultrasound of internal organs (04.12.17), liver 54 mm, left lobe - 27 mm, port vein - 2 mm. Average echogenicity. Biliary bile inflection to the body. Pancreas 5x6x6mm. Average echogenicity. Spline 44mm. Upon examination of the reno-ureteral system, the right kidney was detected 69x28mm with the parenchyma differentiated 8 mm in thickness, the left kidney 76x46mm, the collector system on the left, in the renal parenchyma many cystic formations, the largest of 22mm. Intravenous urography - detection at 6.40 minutes after injection of contrast substance - pyelocaliceal system on the right, ureter contrasted to the right in its middle and inferior third (fig.2 A, B). To the left, the pyelocaliceal system is not contrasted at 1.5 hours after injection of the contrast substance (fig. 2 C).

Micturition cistouretrography revealed bilateral vesico-ureteral reflux, third degree, passive (fig.3 a)), bilateral vesico-ureteral reflux, grade III, active (fig. 3 b)).

Dynamic kidney scintigraphy (of 05.12.17). The right kidney is located in a typical place, with sharp, enlarged dimensions. The distribution of the radiopharmaceutical in it is uneven. The glomerular filtration process is in order. The excretion process is diminished. Radiopharmaceutical retention is found in the calcification system - basinet on the right. The left kidney is not visualized, its function is not determined.

After treatment, on the background of anti-anemic medication (Ferropol 6 drops in 24 hours) the control tests of 11.12.17, established normalization indices: Hemoleucogram: hemoglobin 116, g / l, (norm b - 130.0-160, 0, f - 120.0-140.0), erythrocytes - 3.7 x 1012 / l, (norm b - 4.0-5.0, f. 3.7-4.7x1012 / l), colour index – 0.94 (norm - 0,85-1,05), leukocytes 7.3x109 / l, (norm - 4,0-9.0 x109 / l), hematocrit – 0.28% (norm b – 40.0 - 48.0%, f.- 36.0-42.0%), thrombocyte - 232x109 / l (norm - 180.0-320 x109 / l), non-segmentations -7 (norm - 1-6% - 20 (norm - 47-72), eosinophils - 3 (norm - 0.5-5), lymphocytes - 66 (norm - 19-37), monocytes - 4 . (norm - b-2-10, f. - 2-15). Despite the insignificant normalization of hemoglobin indices, there is an increase in the non-segmentations of up to 8%, which indicates the persistence of an inflammatory process in the child.

Biochemical blood test of 11.12.17. Total protein -56.1 g / l, (norm - 64-83), urea - 1.0 mmol / l (norm - 2.1-7.1 mmol / l), creatinine - 40 mcmol / l - ALU - 18 units / l (norm - 1-49), ASAT - 24 units / l (norm - 1-46 units), total bilirubin – 8.6 mcmol / l (norm 1-17 mcmol / / l), potassium - 5.18 mmol / l, (norm 3.5-5.3), sodium - 136 mmol / l (norm - 135-148 mmol / l), calcium - standard - 2.2 - 2.55 mmol / l).

On the basis of the imaging and functional examinations of the renal urinary system, especially reno-ureteral, a diagnosis of congenital reno-ureteral abnormalities has been made: Renal multicystic dysplasia of the reno-ureteral complex on the left, nonfunctioning, with vesico-ureteral reflux III degree mixed; single-functional reno-ureteral complex at the parameters of the oblique ureteral reflux III degree mixed. Recurrent pyelonephritis. Iron-deficient compensated anemia.

On the basis of the diagnosis made on 18.12.2017, two-approaches surgery was performed. 1. Lumbotomia pe stânga. Nephrectomy on the left. (Fig. 4 a), b)) Draining of the paranephral space. 2. Over-bladder ureterectomy on the left. After processing the field of operation, a left ventricular lymphoma incision was performed. Gradually the paranephron was opened. The kidney presented by multiple cystic formations, approximately 18-20 of different sizes, with thin cyst walls, with transparent content, was detected

(fig.4 a), b)). Hypoplastic ureter did not differentiate from cyst tissue. Nephrectomy was performed. Rubber drainage. Anatomical plans rebuilt to drain. Aseptic dressing. Over-bladder ureterectomy on the left. Incision of the suprapubic region on the left. Gradually the bladder was detected. Hypoplastic ureter in the lower 1/3, proximally dilated. It was maximally mobilized. It was taken over two clamps, cut between them. Survezicular ureterectomy was performed on the left. Rubber drainage. Anatomical plans rebuilt to drain. An aseptic dressing was applied.

Morphopathological specificity, Morphopathological, postoperative, anatomical-surgical (kidney and urethral segment presentation) findings revealed a multicystic conglomerate shaped kidney with dimensions in the range of 4.5x3x2.6cm and ureter segment with lumen varied between 0.2-0.5 cm in diameter, the bladder being more dilated. In the section, the cystic conglomerate is presented by cystic formations with a diameter of 0.1 to 2.0 cm, lacking communications, with cubic epithelial or epithelial-free cover with transparent, sometimes semitransparent serous content, slightly trabecular surfaces (Fig.5-6). Among the cysts there is pseudomixomatous tissue on the account of edema, including increased consistency. Pelvic-calicular segments were attested only on histological examinations in discordant cystic-cavitary rudimentary aspects, lacking communication with attested cysts, taped with the presence of the pseudo-and pluristrated urothelium (fig. 7). Among the cystic formations there is the parenchyma with dysplastic nephron with tubular and glemerular cysts associated with polymorphometric inflammatory process predominated by lymphocytic elements sometimes with the neoformation of the pseudo-follicular structures (fig.8).

The postoperative period corresponded to the surgery performed. The child, with obvious improvement in general condition, was discharged at home to continue conservative treatment. The following recommendations were made: 1. Tab. 5 NOC 0,05 1/4 tab. x 3 times a day for 10 days, 2. Tab. Quamatel 20 mg 1/4 tab. x 1 per night for 10 days, 3. Tab. Furagin 1/4 x 3 times a day for 10 days, 4. Tab. Furagin 1/4 x 2 times a day for 10 days, 5. Tab. Furagin 1/4 x 1 daily for 10 days, 6. Vit. E 2 drops x once a day in the morning for 1 month. 7. Examination after a month with general urine analysis - once every 10 days (total - 3 analyzes), blood count (once every 2 weeks), examinations performed (intravenous urography, renal scintigraphy, micturition cistoureterography). 8. The assessment of the disability group.

The analysis of the results obtained in the study on the MRD allowed to determine two types of MRD: a) MRD with absence of basin, with or without the presence of a rudimentary ureteral segment, the presence of cartilage, this variant frequently being described in the literature, also characterized by the lack of nephron parenchyma; b) MRD with the presence of a non-communicating rudimentary pelvis with cystic formations, with dorsal ureter in the shape of a cord and with segmental morpho-functional features at the limit of the norm. This variant was characterized by the presence of the nephron stroma.

Depending on the type of MRD ranked as a result of the quantification of morphopathological features, the inflammatory process was predominantly certified in variant "b", at the level of nephronous parenchymal islets characterized by the polymorphic cell predominated by the lymphoplasmocyte with the presence of lymphoid pseudo-follicular structures. In our opinion, the presence of inflammatory process in the malformative kidney is already a criterion which does not exclude the simultaneous absence of the inflammatory process in the contralateral reno-ureteral complex, which can be taken into account as a suggestive marker for the monitoring of the patient, ie the controlled kidney.

Conclusions

1. Multidisciplinary renal dysplasia in the child is a congenital kidney malformation due to embryonic disturbances, diagnosis being determined by the ultrasound examination during the intrauterine development of the fetus in the antenatal screening programs.
2. In an asymptomatic newborn the clinical examination reveals a palpable tumor mass, and renal ultrasound determines multicystic, morphological renal dysplasia based on the vicious features of the structural components being diagnosed with 2 conventional forms and making the presence of their pelvic-calicular and rudimentary elements .
3. The precise causes of renal multicystic dysplasia to date are not well known, the presence of the inflammatory process may justify a genesis of intrauterine infectious teratogenic actions, being also an advanced secondary characteristic to pre-existing dysplasia changes.
4. Although according to literature data, vesicoureteral reflux in renal multicystic dysplasia has a frequency of 15-30%, only 3 cases have been detected in our clinic over 20 years.
5. Surgical correction in renal multicystic dysplasia is nephrectomy (in the absence of the ureter) or in vesicoureteral reflux on dysplastic kidneys supplemented with over-bladder ureterectomy.
6. The prognosis is age-dependent, the presence of vesicoureteral reflux on the contralateral kidney, rigorous pre- and postoperative surveillance, anti-hypoxanth treatment.

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