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PEDIATRIC UROLOGY

Natural History of Patients With Multicystic Dysplastic Kidney-What Followup Is Needed?

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Purpose: Most clinicians recommend followup with annual ultrasound for patients with multicystic dysplastic kidney. The aim of this study was to determine whether followup ultrasound provides any clinical benefit.
Materials and Methods: We retrospectively reviewed the charts of 73 patients who were diagnosed with multicystic dysplastic kidney between October 1991 and August 2005. Data were analyzed with respect to patient characteristics and followup information.
Results: We identified 61 patients (43 boys and 18 girls) with adequate followup. A total of 49 patients (80%) were diagnosed prenatally and 12 (20%) postnatally. Associated urological anomalies were noted in 16 patients (26%). Median followup was 2.6 years (range 6 months to 37.5 years). Ultrasound examinations showed complete involution in 25 patients (41%) and partial regression in 18 (30%). The size of the multicystic dysplastic kidney increased in 1 patient (1.6%) and was unchanged in 17 (28%) without any pathological manifestations. Median age at complete involution was 2.1 years (range 36 days to 13.7 years). Patients with contralateral compensatory hypertrophy had more rapid complete involution. Urinary tract infection developed in 6 patients, of whom 1 was ultimately found to have reflux and 1 had ureteropelvic junction obstruction.
Conclusions: In our patients with unilateral multicystic dysplastic kidney ultrasound provided little clinically important information. Our data and a review of the literature suggest that once the diagnosis is made, no urological followup is needed. The primary care provider should monitor patients with multicystic dysplastic kidney for hypertension, abdominal mass and urinary tract infection.

Editorial Comment
This is an interesting review of 73 patients between 1991 and 2005 diagnosed with multicystic kidney disease. Of these 61 patients, 43 boys and 18 girls, had follow up with ultrasound postnatally and VCUG or renal scan.

Median age at diagnosis was 1.5 years and median follow up was 2.6 years with the median number of ultrasounds per patient was 4. Associated urologic anomalies were found in 16 patients. Most were vesicoureteral reflux. Four had ureteroceles and 1 had a contralateral ureteropelvic junction obstruction. The authors evaluated their patients thoroughly for hypertension and development of kidney tumors and none of their patients developed either. Only one of their patients had an increase in size in the multicystic kidney. They conclude that multicystic dysplastic kidney patients should have a postnatal ultrasound and VCUG and only patients with associated urologic anomalies should have continual follow up.

This data seems to mirror that which is seen in the medical literature and there is very little evidence that multicystic dysplastic kidney patients will develop hypertension at any increased rate or develop a kidney tumor. Many have recommended that the ultrasounds be done at least until age 8 or even puberty. In this study, the actual follow up is relatively short but their lack of findings seems to validate their conclusions that routine imaging is unnecessary.

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Impact of Patient Age on Distal Hypospadias Repair: A Surgical Perspective

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Objectives: To assess whether the age at which the initial hypospadias repair is performed influences the complication rate of hypospadias repair.
Methods: The records of 325 consecutive patients who underwent initial hypospadias repair were reviewed. The patients with glanular and coronal hypospadias underwent repair with either meatoplasty and glanuloplasty or a glans approximation procedure. Patients with subcoronal hypospadias and penile hypospadias underwent repair with tubularized incised plate urethroplasty. The patients were divided into 6-month age groups, and the complication rates were analyzed by age group using the chi-square test.
Results: A total of 325 hypospadias repairs were performed from January 1999 to January 2005 by a single surgeon. Of the 325 cases, 194 tubularized incised plate procedures were performed, 69 meatoplasty and glanuloplasty procedures were performed, and 53 glans approximation procedures were performed. Nine tubularized island flap urethroplasties performed for penoscrotal hypospadias were excluded because we did not perform a significant number of proximal urethroplasties. Nineteen patients (6.0%) developed urethrocutaneous fistulas and six (1.9%) demonstrated dehiscence. Overall, 2 patients (2.2%) who underwent surgical repair within the first 6 months of age developed complications compared with 23 patients (10.3%) who underwent initial hypospadias repair when they were older than 6 months of age ($P = 0.006$).
Conclusions: Tubularized incised plate, meatoplasty and glanuloplasty, and glans approximation urethroplasty are all excellent options for the surgical correction of hypospadias in the appropriately selected patient. The results of our study have indicated that complications are minimized when hypospadias repair is performed when the patient is 4 to 6 months of age.

Editorial Comment

This article reviews 316 cases of distal hypospadias repair from 1999-2005. Patients underwent a tubularized incised plate urethroplasty, meatal advancement glanuloplasty or a glans approximation procedure, and were stratified into categories. The first category was 4-6 months of age and then after that, six month intervals, and their complications were compared.

Only two complications occurred in the 92 patients done between 4-6 months of age. 15 complications occurred between 7 and 12 months and two between 13 and 18 months. There was a statistical difference between complications in the 4-6 month group and any group thereafter. This was especially obvious in the tubularized incised plate urethroplasty group.

Currently for many reasons, the American Academy of Pediatrics has recommended genital surgery be performed between 6 and 12 months of age. This article brings into question whether this recommendation should be pushed a few months earlier for the benefits of the repair. As pediatric anesthesia has made great progress in the last couple of decades, the risk to infants is much less and similar during each of these age groups. This a piece of information that is interesting to consider, however it is difficult to understand on a physiologic basis, how a few months of age would make a difference in the healing process and complications of the patients.

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