Persistent vesicoureteral reflux after ileocecal cystoplasty in children with voiding dysfunction

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Abstract:

Objectives: To define incidence, risk factors and effect of persistent vesivoureteral reflux [VUR] after ileocecal cystoplasty in children with voiding dysfunction. Materials and methods: Between June 2008 and June 2013, children 5-18 years old, who had VUR before ileocecal cystoplasty without ureteral reimplantation, were included. Voiding cystourethrogram and pressure flow study were obtained before and 6-12 months after the operation. VUR was graded using the international reflux study committee classification. Grades I, II, and III were considered low grade. Grades IV and V were considered high grade. VUR persistence was analyzed in relation to age, sex, cause of voiding dysfunction, laterality, preoperative and postoperative maximum detrusor filling pressure, and preoperative grade of reflux. Attacks of febrile acute pyelonephritis were recorded and analyzed in relation to VUR persistence. Follow up period ranged from 12 to 55 months [mean 34.1]. Results: 25 refluxing renal units in 13 children [8 males and 5 females] were included. Age range was 6-16 years [mean 11.06]. The cause of voiding dysfunction was neurogenic in 8, dysfunctional voiding in 3, and valve baldder in 2. All of them had ileocecal cystoplasty with enforced in-situ appendicular catheterizable stoma. VUR was low grade in 4 renal units and high grade in 21. Postoperative low grade VUR was found in 13 renal units (52%), and no high grade VUR. Preoperative high grade reflux was significantly related to VUR persistence (Chi-square, p=0.023). Mean preoperative maximum detrusor filling pressure with persistent reflux was 61.1 ±5.8 cmH2O, and 72.1 ±10.3 cmH2O with cured reflux (t-test, p=0.003). 8 renal units in 6 patients had attacks of acute pyelonephritis. Persistent VUR was in 6 of them (Chi-square, p=0.007). Conclusions: Preoperative high grade VUR and low maximum detrusor filling pressure are risk factors for persistent VUR after ileocecal cystoplasty in children. Persistent VUR is a risk factor for acute pyelonephritis and may have a deleterious effect on the kidney.

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