

procedure, suburethral sling using an alternative material, versus injectable) this procedure appears to be inexpensive, straight forward, with an acceptable level of success.

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**Dr. Steven P. Petrou**

*Associate Professor of Urology*

*Chief of Surgery, St. Luke's Hospital*

*Associate Dean, Mayo School of Graduate Medical Education*

*Jacksonville, Florida, USA*

## PEDIATRIC UROLOGY

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### **Prediction of Vesicoureteral Reflux after a First Febrile Urinary Tract Infection in Children: Validation of a Clinical Decision Rule**

Leroy S, Marc E, Adamsbaum C, Gendrel D, Breart G, Chalumeau M

*Clinical Epidemiology Unit, Department of Paediatrics, Saint-Vincent-de-Paul Hospital, AP-HP, Universite Paris V, Paris, France*

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**Aims:** To test the reproducibility of a highly sensitive clinical decision rule proposed to predict vesicoureteral reflux (VUR) after a first febrile urinary tract infection in children. This rule combines clinical (family history of uropathology, male gender, young age), biological (raised C reactive protein), and radiological (urinary tract dilation on renal ultrasound) predictors in a score, and provides 100% sensitivity.

**Methods:** A retrospective hospital based cohort study included all children, 1 month to 4 years old, with a first febrile urinary tract infection. The sensitivities and specificities of the rule at the two previously proposed score thresholds ( $\leq 0$  and  $\leq 5$ ) to predict respectively, all-grade or grade  $\geq 3$  VUR, were calculated.

**Results:** A total of 149 children were included. VUR prevalence was 25%. The rule yielded 100% sensitivity and 3% specificity for all-grade VUR, and 93% sensitivity and 13% specificity for grade  $\geq 3$  VUR. Some methodological weaknesses explain this lack of reproducibility.

**Conclusions:** The reproducibility of the previously proposed decision rule was poor and its potential contribution to clinical management of children with febrile urinary tract infection seems to be modest.

#### **Editorial Comment**

The authors attempt to validate a previously proposed decision-rule that can be used to decide when to obtain a VCUG in children who have had a first febrile UTI. This is potentially valuable, as any method of limiting the number of catheterized studies in young children would be beneficial. The proposed decision-rule takes into account the age, gender, family history, C-reactive protein and dilation noted on ultrasound. These are all clinically relevant features of the child presenting with a febrile UTI.

Unfortunately, the current study population did not support the use of the decision-rule. In order not to miss a positive VCUg, only 3 of the 143 patients would have been excluded. Nineteen could have been excluded if the clinician would be willing to miss 8% of the refluxing patients, including 1 of the 14 with at least grade 3/5 reflux. Moreover, it is well known that VCUGs themselves are only about 80% sensitive. Hence, the reported analysis is likely an overly positive estimate of the benefits of the decision-rule.

Hanging over this study is the possibility (that this author does not agree with) that diagnosing reflux, is itself of no value. Some have proposed giving temporary prophylactic antibiotics to all patients with febrile UTIs. Others have suggested that prophylactic antibiotics themselves are of no value; if so, why bother diagnosing reflux? In clinical practice, most clinicians still want to diagnose reflux. Therefore, a decision-rule like the one proposed would be of great value. At this time, unfortunately, none exists.

**Dr. Barry A. Kogan**

*Chief and Professor of Urology and Pediatrics  
Albany Medical College  
Albany, New York, USA*

### **Testicular Growth from Birth to Two Years of Age, and the Effect of Orchidopexy at Age Nine Months: A Randomized, Controlled Study**

Kollin C, Hesser U, Ritzen EM, Karpe B

*Department of Woman and Child Health, Karolinska Institutet, Stockholm, Sweden*

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**Aim:** To study whether surgical treatment at age 9 mo in boys with congenitally unilaterally palpable undescended testes (cryptorchidism) is followed by improved growth of the previously retained testes compared to non-treatment.

**Methods:** At the age of 6 mo, 70 boys were randomized to surgical treatment at 9 mo and 79 boys to treatment at 3 y of age. The boys were then followed at 12 and 24 mo. Ultrasonography was used to determine testicular volume.

**Results:** After orchidopexy, the previously retained testes resumed growth and were significantly larger than the non-operated testes at 2 y (0.49 ml vs 0.36 ml,  $p < 0.001$ ). Testicular growth after orchidopexy was also demonstrated by a higher mean ratio between the previously retained and the scrotal testes of the individual boys at 2 y: 0.84 for the surgically treated group, compared to 0.63 for the untreated group ( $p < 0.001$ ).

**Conclusion:** Surgery at 9 mo has a beneficial effect on the growth of previously undescended testes.

### **Editorial Comment**

The authors performed an excellent, randomized study of surgery at 9 months vs. delayed surgery (planned for 3 years of age) for undescended testes. They report that 1) undescended testes are slightly smaller than their descended contralateral matches are shortly after birth; 2) these testes lose considerable ground during the first 6 months of life; 3) those operated on grow much better than those non-operated on during the first 24 months of life.

This is the first randomized trial of early surgery in these patients and demonstrated a clear benefit in terms of testicular size. It is extremely important from that standpoint and it is rewarding for most surgeons in that it supports early surgery. On the other hand, there are a number of questions that the study raises. First, the size measurements were difficult to blind. Those still undescended clearly were notable at the time of the ultrasound and there might well be observer bias. Second, one has to wonder if the increased size is at all

related to lymphatic obstruction. Doing a proper orchiopexy may well require damaging most lymphatics, resulting in a large testis in the first year or 2 postoperatively. This type of enlargement might not be discernable on ultrasound. Third, the study results are reported after 24 months, so we do not know if those children operated on later might have the same increase in growth and therefore, there may not be any benefit to early surgery. Fourth, we do not know if the larger testis is any better functionally. Indeed, most studies suggest that the undescended testis contributes little to ultimate fertility. This is an early report of a much larger study and we can expect that the answers to some of these questions will be forthcoming.

Overall, the authors are to be congratulated on a careful randomized study of this complex problem. We eagerly look forward to further reports from this study.

***Dr. Barry A. Kogan***

*Chief and Professor of Urology and Pediatrics*

*Albany Medical College*

*Albany, New York, USA*