

to define post-operative dysfunctional voiding patterns included detrusor voiding pressure at maximum flow rate, detrusor instability, peak flow rate, post-void residual, cystometric bladder capacity and bladder compliance. Out of the 73 post-operative women reviewed, 4 women were in urinary retention and 9 different women took greater than 7 days to resume their post-operative voiding. The 4 women in urinary retention all voided without a detrusor contraction. One of those women voided with Valsalva maneuvers while the other three in urinary retention voided without a Valsalva maneuver. Of the 7 women who were noted to void by Valsalva maneuver, one had a delayed return to efficient voiding. Three patients developed de novo urgency and one of the three had detrusor instability on pre-operative urodynamics while two did not.

This paper is quite notable with regard to emphasizing the importance of pre-operative urodynamic evaluation prior to an anti-incontinence procedure and to commenting on the post-operative voiding function of Valsalva voiders. Many times with a physical examination and history consistent with stress urinary incontinence, surgeons will question the need to put patients through a urodynamic testing. The value of a urodynamic testing denoted by this article would include characterizing the woman's voiding pattern with regards to the use of a detrusor contraction or not, in addition to documenting detrusor instability. Preparation for potential post-operative difficulties is of immeasurable value in the field of voiding dysfunction. However, as stated by this paper, most women who void without a detrusor contraction will not have urinary retention after an anti-incontinence operation such as a sling. Perhaps these patients do normally void with a detrusor contraction but that the urodynamic study was unable to identify or characterize same thus obscuring the true voiding difficulties of patients who void without a detrusor contraction and who undergo a suburethral sling.

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PEDIATRIC UROLOGY

Antibiotics and surgery for vesicoureteric reflux: a meta-analysis of randomised controlled trials

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Aims: To evaluate the benefits and harms of treatments for vesicoureteric reflux in children.

Methods: Meta-analyses of randomised controlled trials using a random effects model. Main outcome measures were incidence of urinary tract infection (UTI), new or progressive renal damage, renal growth, hypertension, and glomerular filtration rate.

Results: Eight trials involving 859 evaluable children comparing long term antibiotics with surgical correction of reflux (VUR) and antibiotics (seven trials) and antibiotics compared with no treatment (one trial) were identified. Risk of UTI by 1-2 and 5 years was not significantly different between surgical and medical groups (relative risk (RR) by 2 years 1.07; 95% confidence interval (CI) 0.55 to 2.09, RR by 5 years 0.99; 95% CI 0.79 to 1.26). Combined treatment resulted in a 60% reduction in febrile UTI by 5 years (RR 0.43; 95% CI 0.27 to 0.70) but no concomitant significant reduction in risk of new or progressive renal damage at 5 years (RR 1.05; 95% CI 0.85 to 1.29). In one small study no significant differences in risk for UTI or renal damage were found between antibiotic prophylaxis and no treatment.

Conclusion: It is uncertain whether the identification and treatment of children with VUR confers clinically important benefit. The additional benefit of surgery over antibiotics alone is small at best. Assuming a UTI rate of 20% for children with VUR on antibiotics for five years, nine reimplantations would be required to prevent one febrile UTI, with no reduction in the number of children developing any UTI or renal damage.

Editorial Comment

This paper reviews randomized controlled trials of children with vesicoureteral reflux. Only eight trials were felt to be adequate for analysis. Nonetheless, the conclusion that the authors reach is that there are few differences in the results of antibiotic treatment vs. surgical treatment. Indeed, the only difference demonstrated was a 60% reduction in febrile UTI at 5 years. The authors calculate that 9 to 17 children would require antireflux surgery to prevent one UTI during the five-year follow-up. If indeed there is limited benefit, the authors intimate that even voiding cystourethrograms (VCUG) may not be needed. All children could be treated with antibiotics. Furthermore, the only study that reviews the results of no antibiotic treatment for patients with reflux showed no significant differences between groups. If this data holds up, it is conceivable that no VCUG would be needed in these children and no antibiotics would be necessary except for treatment of acute UTI.

On the other hand, the paper also documents the weaknesses in those trials. The studies all have significant problems. Even accounting for the weaknesses of the studies of medical vs. surgical management, it is likely that longer follow-up would show an even larger difference in febrile UTIs. Similarly, longer follow-up might well show benefits of antibiotic use in children with reflux, as the single study reported had only 29 children and 14 months of follow-up. It seems that the main point of this manuscript is that more studies are needed to obtain scientific data that enable optimal decision-making.

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Treatment of vesico-ureteric reflux: a new algorithm based on parental preference

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Objective: To assess parental preference (acknowledged in treatment guidelines as important when choosing therapy) about treatments for vesico-ureteric reflux (VUR, commonly associated with urinary tract infection and which can cause long-term renal damage if left untreated), as at present there is no definitive treatment for VUR of moderate severity (grade III).

Subjects and Methods: The parents of 100 children with grade III reflux (38 boys and 62 girls, mean age 4 years, range 1-15) were provided with detailed information about the three treatment options available for treating VUR (antibiotic prophylaxis, open surgery and endoscopic treatment), including the mode of action, cure rate and possible complications, and the practical advantages and disadvantages. They were then presented with a questionnaire asking them to choose their preferred treatment.

Results: Most parents preferred endoscopic treatment (80%), rather than antibiotic prophylaxis (5%) or open surgery (2%); 13% could not decide among the three options and endoscopic treatment was recommended.

Conclusion: Given the strong preference for endoscopic treatment we propose a new algorithm for treating VUR; endoscopic treatment would be considered as the first option for persistent VUR, except in severe cases where open surgery would still be recommended.

Editorial Comment

The authors examine parental preferences in choices of treatment for vesicoureteral reflux. Using 100 families of children with Grade III/V reflux as a test group, the authors presented information on 3 treatment options (antimicrobial therapy, open surgery and endoscopic injection). 80% chose endoscopic therapy vs. only 2% for open surgery and 5% for antimicrobial therapy!

The parental choices in this case are striking. On the other hand, the choices are based primarily on the counseling. In particular, the account of open surgery described a hospitalization of 7-10 days and a follow-up voiding cistourethrogram (VCUG). In our hospital, the majority of patients go home the next day after antireflux surgery and VCUG are only done if patients have persistent hydronephrosis or UTI. This difference in practice may make an enormous difference in parental choice. Nonetheless, it is important to recognize the emotional appeal of endoscopic therapy.

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