

incontinence continuing to worsen as the pregnancy continues; nevertheless, the physician probably will not be challenged to find a solution to this problem for the pregnant woman does not view it as a significant bother.

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PEDIATRIC UROLOGY

Antegrade Scrotal Sclerotherapy for Treating Primary Varicocele in Children

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Objective: To evaluate the effectiveness and limitations of antegrade sclerotherapy (AS) for the treatment of primary varicocele in childhood.

Patients and Methods: From December 1996 to December 2004, 88 patients (mean age 13.3 years, range 9-18) with primary varicocele underwent AS (91 varicocele ablations in all). The indications for surgery were testicular pain (16 boys, 18%), a large varicocele with cosmetic implications, testicular hypotrophy (one) and in 71 (81%) the varicocele was detected incidentally during a routine physical examination; all were left-sided. According to the classification used by Tauber, 46 (52%) varicoceles were grade II and 42 (48%) grade III. The clinical and ultrasonography (US) results were evaluated over a median (range) follow-up of 11 (3-60) months, and the operative duration, X-ray exposure time, persistence rate of varicoceles and complications were compared with those using other techniques. **RESULTS:** In 11 patients there was a palpable difference in size between the testicles, but in only five (6%) was testicular hypotrophy (testicular volume (< 75% testicular volume vs the normal side) confirmed by US. The mean (SEM) operative duration for AS was 33.2 (2.14) min. In 16 (18%) patients it was necessary to expose a second or third vein because the first vein chosen was unsuitable for sclerotherapy. The mean operative radiation exposure was 2.18 (0.21) s. One patient (1%) was treated with a high ligation of the testicular vein (Palomo procedure) after initial unsuccessful AS, and was excluded from the analysis. Eighty-four (97%) patients were eligible for follow-up: six (7%) had a persistent varicocele (four grade II, two grade III), four of whom had repeat sclerotherapy successfully (no recurrence at follow-up). Fourteen (15%) patients had enlarged testicular veins only on US (varicocele grade 0). No patient developed a hydrocele after AS. There were complications after surgery in three (3%) patients (two superficial wound infections, one scrotal haematoma together with focal testicular necrosis).

Conclusions: AS is an efficient minimally invasive surgical method for correcting varicoceles in older children, although the operative duration is sometimes longer than in adults, and surgery can be more difficult because of the smaller veins. Partial testicular necrosis, despite correct AS, is a very rare but serious complication.

Editorial Comment

This paper provides more data on a new, innovative and “minimally invasive” treatment for varicocele. The technique, which uses a short time of fluoroscopy to assess venous drainage and a venous injection of a sclerosing agent, should be associated with minimal postoperative morbidity.

The authors used the technique in 88 patients over 6 years. Mean fluoroscopy time was 2 seconds and mean operative time was 33 minutes. In recent years, the procedure has been done as a “day surgery”. The authors report that there was a persistent varicocele in only 6 patients and no postoperative hydroceles. There was a postoperative increase in relative volume of the affected testis in 4 of 5 evaluable cases. One patient had an ischemic necrosis of the upper pole of the testis, presumably due to the sclerosing agent entering the testicular circulation.

The series is a bit unusual in that very few of the patients had testicular hypertrophy/atrophy. In our experience, a small left testis is the primary reason for operative intervention. If there is only a limited benefit to the procedure, then the risk of the procedure may be more than the benefit. Concerning also is a 7% recurrence rate (and this seems to exclude one patient who underwent a Palomo repair for a failure!). This is higher than anticipated, as is the wound infection rate of 2% and the incident of testicular ischemia.

Overall, this is an interesting contribution on a minimally invasive treatment of varicocele in adolescents. It is a technique worth exploring, but is clearly not without complications. In my opinion it should be reserved for patients with stronger indications.

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Clinical Significance of Primary Vesicoureteral Reflux and Urinary Antibiotic Prophylaxis after Acute Pyelonephritis: A Multicenter, Randomized, Controlled Study

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Objectives: To evaluate the role of primary vesicoureteral reflux (VUR) in increasing the frequency and severity of urinary tract infections (UTIs) and renal parenchymal damage among patients with acute pyelonephritis and to determine whether urinary antibiotic prophylaxis reduces the frequency and/or severity of UTIs and/or prevents renal parenchymal damage among patients with mild/moderate VUR.

Methods: Patients 3 months to 18 years of age with acute pyelonephritis, with or without VUR, were assigned randomly to receive urinary antibiotic prophylaxis or not. Patients were monitored every 3 months for 1 year. Dimercaptosuccinic acid renal scans were repeated at 6 months or if there was a recurrence of febrile UTI. Urinalysis and urine culture were performed at each clinic visit. Renal ultrasound scans and voiding cystourethrograms were repeated at the end of 1 year of follow-up monitoring.

Results: Of the 236 patients enrolled in the study, 218 completed the 1-year follow-up monitoring. Groups were similar with respect to age, gender, and reflux grade distribution for those with VUR. No statistically significant differences were found among the groups with respect to rate of recurrent UTI, type of recurrence, rate of subsequent pyelonephritis, and development of renal parenchymal scars. **Conclusions:** After 1 year of follow-up monitoring, mild/moderate VUR does not increase the incidence of UTI, pyelonephritis, or renal scarring after acute pyelonephritis. Moreover, a role for urinary antibiotic prophylaxis in preventing the recurrence of infection and the development of renal scars is not supported by this study.

Editorial Comment

The authors present a very important study of the effects of reflux on the outcome of patient with UTIs and the benefits of prophylactic antimicrobials. Their findings suggest: 1) that reflux is not a cause of UTIs (many studies would support this notion, as an abnormality of host resistance is more likely); 2) that reflux is not associated with a statistically significant increase in pyelonephritis or renal scarring (the former tends to disagree with the previous literature and the latter is in agreement with the literature); 3) and strikingly, that antibiotic prophylaxis was associated with more UTIs and pyelonephritis than those on no therapy (a very controversial finding).

The findings, especially that prophylaxis was of no benefit (and might have been harmful), are important and suggest a change in clinical management. On the other hand, there are some significant weaknesses in this study. First, the study was not blinded. The control group was not on any medications (vs. being treated with placebo). Hence these patients may have been evaluated differently. Indeed, some of them must have been treated with antibiotics for other illnesses during the study (e.g. ear infections). There is no mention of this. Second, the statistical analysis excluded patients who were non-compliant. A more appropriate analysis would have been an "intention to treat" analysis. Furthermore, the authors state that they needed 60 patients in each group for appropriate recruitment, hence the study was underpowered. Third, clinicians have been aware that abnormalities of host resistance are the main cause of UTIs, but the authors make no mention of voiding dysfunction or constipation. Fourth, the study only lasted 1 year and during that time, only 20% of the patients resolved their reflux. To answer the question that the authors attempt to deal with, a much longer follow-up period is needed.

Despite these misgivings, the authors did find a much higher rate of pyelonephritis in those getting prophylaxis than in those on no medications (12.9% vs 1.7%). This finding is very provocative and warrants further scientific study. If substantiated, this could lead to a paradigm shift in the management of children with reflux.

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