images showing the laminated concentric architecture of this lesion. Although this testicular tumor is rare (approximately 1% of resected testicular masses) its identification may direct the surgeon to enucleation and possible frozen section rather than orchiectomy.

Cary Lynn Siegel, M.D.

Role of Ultrasonography in Screening for Urological Malignancies in Patients Presenting With Painless Haematuria

S. K. H. Yip, W. C. G. Peh, P. C. Tam, J. H. C. Li and C. H. L. Lam, *Department of Surgery, Division of Urology and Department of Diagnostic Radiology, University of Hong Kong, Queen Mary Hospital, Hong Kong*

Ann Acad Med Singapore, **28:** 174–177, 1999

The objective of this study was to determine the efficacy of ultrasonography and urography in evaluating patients presenting with painless gross haematuria for urinary malignancies.

From October 1992 to March 1997, 468 consecutive patients presenting with painless gross haematuria were prospectively investigated. Ultrasonography and urography were performed independently, followed by diagnostic cystoscopy and other relevant investigations.

One hundred and twenty-five urinary malignancies (26.7%) were detected in 122 patients, 85 being carcinoma of bladder (85/468 patients; 18.2%), followed by renal cell carcinoma (25/468 patients; 5.3%). Ultrasonography was significantly more sensitive (83/85; 98%) in the detection of bladder tumours, compared to urography (42/78; 54%) ($P < 0.05$). In the upper tract, there was no significant difference in the sensitivity of lesion detection.

Ultrasonography is more sensitive than urography for diagnosing urological malignancies in patients presenting with painless gross haematuria, where carcinoma of bladder is the commonest pathology. Its utilisation as an initial screening investigation is recommended. Patients diagnosed to be suffering from carcinoma of bladder by ultrasonography should be scheduled directly and promptly for therapeutic endoscopy.

Editorial Comment: The authors discuss the role that ultrasound may have in screening patients for painless gross hematuria and suggest that it might replace excretory urography (IVP). In this study ultrasound performed equally as well as IVP in diagnosing urological tumors. I perform ultrasound frequently and am not in favor of it for patients with painless gross hematuria for several reasons. 1) Small transition cell tumors in the upper tracts can easily be missed on ultrasound but they can also be missed on computerized tomography (CT). Since the incidence of upper tract tumors in patients with bladder malignancies is low, this lack of detection may not be critical. 2) Renal cell carcinoma, which was frequent in this study, would likely need further evaluation with CT, and angiomyolipoma, which may have ultrasound features similar to renal cell carcinoma, would need further imaging. 3) The majority of the ureter, except for the ureterovesical and ureteropelvic junctions, is not visualized with ultrasound, which limits our ability to evaluate for ureteral neoplasm. 4) Small stones in the kidney, which may or may not shadow, can easily be confused with vascular calcifications and spectral reflections from crystalline material in the tubules. All of these entities may be difficult to differentiate and noncontrast CT may be necessary.

If I were to choose a single imaging test to evaluate patients with painless gross hematuria, I would choose CT with delayed views either from the scout topogram from the CT or conventional radiographs (in the frontal and oblique projection to simulate IVP). The authors state that 3 ureteral tumors were detected on IVP and ultrasound. I am curious as to their size and location. Although CT is more expensive than ultrasound it provides significantly more information. Since many of these lesions might lead to CT anyway, the cost differential for performing CT might not be significant. The authors state that ultrasound is more sensitive than IVP for detecting lower urinary tract malignancies. I suspect that most urologists would want to perform cystoscopy and biopsy, and so I am unsure of the usefulness of bladder ultrasound to detect tumors.

Cary Lynn Siegel, M.D.

PEDIATRIC UROLOGY

Does the Endoscopic Incision of Ureteroceles Reduce the Indications for Partial Nephrectomy?

T. Petit, P. Ravasse and P. Delmas, *Department of Paediatric Surgery, Caen University Hospital, Caen, France*

BJU Int, **83:** 675–678, 1999

Objective To determine whether the endoscopic incision of ureteroceles reduces the indications for partial nephrectomy.

Patients and methods Between 1987 and 1996, endoscopic incision was used as the first-line treatment of 18 children (13 boys, five girls, aged 8 days to 6 months) with a duplex-system ureterocele diagnosed antenatally (15) or in the first weeks of life during the course of a urinary infection (three). Of the 19 ureteroceles (one bilateral), four were intravesical and 15 ectopic, according to the American Academy of Paediatrics classification. Vesico-ureteric reflux into the inferior pole of the kidney was present in 10 children, seven of whom had an ectopic ureterocele. A functioning upper pole was detected by intravenous pyelography (IVP) in half the intravesical and in a third of the ectopic ureteroceles.

Results Endoscopic incision resulted in decompression and reduction of dilatation in 16 cases; three with inferior pole reflux resolved on control cystography, whilst in seven with an ectopic ureterocele, reflux into the upper urinary tract was induced by endoscopic incision. In three children with an ectopic ureterocele, renal function had improved at 3 months, as assessed by IVP. Endoscopic incision was the only treatment for half the intravesical and six of 15 ectopic ureteroceles. Overall, nephrectomy was required in four of 18 patients (three partial nephrectomies for persistent dilatation and one total nephrectomy). Five nonfunctioning, undilated upper poles with no reflux were left in place. Nine vesico-ureteric reimplantations for persistent or induced reflux were carried out using the Cohen technique.

Conclusion Endoscopic incision can allow the deferral of nephrectomy, facilitate lower urinary tract reconstruction and reduce the indications for partial nephrectomy, if it is accepted that a nonfunctioning, undilated renal pole with no reflux can safely be left in place.

Editorial Comment: The authors argue for endoscopic decompression of ureteroceles in neonates. An endoscopic incision in a newborn with an upper pole ureterocele is usually effective in decompressing the upper pole ureter. This approach relieves the obstructed system early and maximizes the function of the upper pole.

In this series, as in previous reports, most patients with ectopic ureteroceles required a subsequent trigonal operation, usually excision of the ureterocele and bladder neck reconstruction with lower pole or common sheath ureteral reimplant. Many intravesical ureteroceles may be treated adequately with incision only and will not require additional surgery. Proponents of open surgery (upper pole nephrectomy or early open reimplant surgery) avoid endoscopic incision of the ureterocele for fear of creating vesicoureteral reflux after decompression. I believe that vesicoureteral reflux, if it occurs following decompression of the upper pole system, is more a function of the anatomy of the ectopic ureterocele and the anatomical relationship to the lower pole ureter than a function of the technique of decompression. Many ectopic ureteroceles will require subsequent open surgery but most intravesical ureteroceles will not. Early incision as outlined in this article may facilitate later reimplant surgery by reducing dilatation of the upper pole system.

Douglas A. Canning, M.D.

Minimum Incidence and Diagnostic Rate of First Urinary Tract Infection

B. JAKOBSSON, E. ESBJORNER AND S. HANSSON, *Department of Pediatrics, Huddinge University Hospital, Stockholm, Orebro Medical Center Hospital, Orebro and Sahlgrenska University Hospital, Goteborg, Sweden*

Pediatrics, **104:** 222–226, 1999

Editorial Comment: This study was part of a quality assurance project initiated by the Swedish Pediatric Nephrology Association. Of a total of 43 Swedish pediatric centers 26 participated in the study to determine the incidence of urinary tract infection by diagnostic rate in children younger than 2 years. The diagnosis of urinary tract infection was confirmed when the urine sample was obtained by either suprapubic bladder aspiration, or catheter, midstream or bagged specimens. The total population at risk treated at the 26 centers represented 64% of all Swedish children in that age group.

A total of 1,111 boys (967 younger than 1 year and 144 between 1 and 2 years old) and 1,198 girls (827 younger than 1 year and 371 between 1 and 2 years old) had urinary tract infection. In this largely uncircumcised population boys with urinary tract infection outnumbered girls until age 6 months. Urinary tract infection incidence varied from 2.2% for boys in regions near academic centers to 1.1% for those at more rural centers. All children were diagnosed because of acute symptoms, primarily fever. A temperature of greater than 38.5C was noted in 77% of children and a temperature of greater than 38C in 86%. For boys the minimum incidence at the 26 centers was 1% (range 0.3 to 2.6) from birth to 1 year old and 0.1% (range 0.0 to 0.4) from 1 to 2 years old. For girls the minimum incidence was 0.8% (range 0.3 to 2.1) from birth to 1 year old and 0.3% (range 0.0 to 0.9) from 1 to 2 years old.

This study is interesting because it shows that in regions where awareness of the risk of urinary tract infection in infants is high, the diagnostic rates will be high. The authors believe that the figures reported near the academic centers (2.2% for boys and 2.1% for girls) accurately reflect the minimum incidence of urinary tract infection in Sweden. The message of this article

is that the harder one looks, the more frequently one finds a urinary tract infection. The authors suggest that a high degree of vigilance is needed to identify infants at risk and to make the diagnosis of urinary tract infection. They believe that aggressive diagnosis and treatment of urinary tract infection in Swedish infants have resulted in their relatively low rate of renal scarring.

Douglas A. Canning, M.D.

Utility of SPECT DMSA Renal Scanning in the Evaluation of Children With Primary Vesicoureteral Reflux

P. A. Merguerian, M. A. Jamal, S. K. Agarwal, G. A. Mclorie, D. J. Bägli, B. Shuckett, D. L. Gilday and A. E. Khoury, *Division of Urology, Department of Diagnostic Imaging, Hospital for Sick Children, University of Toronto, Toronto, Ontario, Canada*

Urology, **53:** 1024–1028, 1999

Objectives. DMSA renal scanning is more sensitive than ultrasound in detecting renal parenchymal scars. We proposed to determine the utility of single-photon emission computed tomography (SPECT) dimercaptosuccinic acid (DMSA) renal scanning in children with primary vesicoureteral reflux (VUR).

Methods. During a 24-month period, we evaluated the charts of 368 patients who had undergone SPECT DMSA renal scanning for primary VUR. Patients were divided into three age groups: (a) less than 1 year, (b) between 1 and 5 years, and (c) older than 6 years. Renal scars were deemed severe or focal. The data were analyzed to evaluate the utility of SPECT DMSA scanning in children with primary VUR and to determine the indications for performing SPECT DMSA. We also evaluated the sensitivity of recent renal ultrasound technology in detecting focal and diffuse scars.

Results. One hundred twenty-eight patients were younger than 1 year at presentation. These included 240 cases that were detected prenatally. One hundred eighty-five were between the ages of 1 and 5 years, and 55 were 6 years or older. Reflux nephropathy at presentation was found in 99 (26.9%) of 368 patients. DMSA scanning changed the treatment in only 13 patients (3.5%). When scarring was diffuse, ultrasound examination correlated 100% with DMSA scanning; when focal scarring was present, the correlation was poor.

Conclusions. Our results suggest that DMSA scans should be tailored to children who have ultrasound abnormalities, high-grade reflux, or recurrent breakthrough urinary tract infections. These guidelines will result in a substantial cost savings and a significant decrease in radiation exposure.

Editorial Comment: This report confirms my impression that although DMSA scanning is a sensitive test for renal scarring in children, the presence or progression of renal scarring does not usually affect surgical decision making when treating boys and girls with primary vesicoureteral reflux. If we presume that high grade (IV and V) vesicoureteral reflux resolves infrequently and low grade (I to III) reflux resolves relatively commonly, it becomes easier to determine which children with vesicoureteral reflux need surgery. If we presume that most patients with grades I to III vesicoureteral reflux will not require surgery, and only those with breakthrough urinary tract infections are best treated with reimplant surgery, then the DMSA acid scan becomes important primarily to determine which children should undergo nephrectomy (relative renal function less than 5%) versus those who will need a reimplant (relative renal function greater than 10%). If we accept that progressive renal scarring occurs only with breakthrough urinary tract infection, then only 5 of 368 patients (1.3%) in this study had clinical treatment plans changed based on the results of the scan.

Douglas A. Canning, M.D.

The Usefulness of a Minimal Urodynamic Evaluation and Pelvic Floor Biofeedback in Children With Chronic Voiding Dysfunction

C. Pfister, J. N. Dacher, S. Gaucher, A. Liard-Zmuda, P. Grise and P. Mitrofanoff, *Departments of Urology, Paediatric Radiology and Paediatric Surgery, Rouen University Hospital, Rouen, France*

BJU Int, **84:** 1054–1057, 1999

Objective To report our experience of assessing children with chronic voiding dysfunction (>6 months' duration) using a minimal urodynamic evaluation, and the management of detrusor-sphincter dyscoordination (DSdc) using pelvic floor biofeedback.

Patients and methods From 1994 to 1997, 120 children (mean age 7.5 years) with three predominant and associated symptoms were referred to one urologist; they had nocturnal enuresis (28 children), urge incontinence (42) or urinary tract infection (50). All patients were assessed by urinary culture, renal ultrasonography and a minimal urodynamic evaluation, i.e. urinary flowmetry with sphincter electromyography (EMG) using perineal surface electrodes. If they had urinary tract infection and/or renal dilatation, they underwent voiding cysto-urethrography. In children with DSdc, urinary training with frequent voiding was instituted initially, with subsequent pelvic floor biofeedback exercises if the improvement was deemed unsatisfactory.

Results DSdc was diagnosed in 33 children (28%), none of whom had isolated nocturnal enuresis. Pelvic floor biofeedback was undertaken by 15 children (12 girls and three boys); it was well accepted because it was administered as a computer game. In all affected patients the DSdc resolved on EMG and there was a significant clinical improvement. Vesico-ureteric reflux was detected in 24 patients, associated with DSdc in 10. The reflux resolved spontaneously on antibiotic prophylaxis in six children and after urinary re-education in four.

Conclusion A minimal urodynamic evaluation seems to be useful in the diagnosis of DSdc which caused urinary tract infection and/or bladder overactivity. The results with pelvic floor biofeedback were excellent in these children.

Editorial Comment: The authors tried to simplify the evaluation of children with suspected detrusor sphincter dyssynergia. Of 120 children with a history of nocturnal enuresis, urge incontinence or urinary tract infection 33 (28%) had suspicion of detrusor sphincter dyssynergia identified by depressed flow curves or a staccato voiding pattern associated with continuous perineal electromyography activity during micturition. Of these 33 children 18 improved with a training regimen of more frequent voiding and dietary advice only. The other 15 children had pelvic floor biofeedback training with nearly uniformly good results. Only those with a urinary tract infection or dilatation of the upper tracts on ultrasound underwent voiding cystourethrography.

This noninvasive approach is effective. If one presumes that there is a significant psychological overlay in children with dyssynergic voiding patterns, then violating the urethra with a catheter to obtain a voiding cystourethrogram can be traumatic and sometimes a step backward in the process of training a child to relax while voiding. Only those children in whom initial therapy fails (dietary change, increased water drinking, every 3-hour voiding with record keeping and careful monitoring of stooling patterns) require biofeedback training. It seems from this study that nearly all children, even those in whom initial behavior modification regimens failed requiring biofeedback training, can be successfully treated without a catheter.

Douglas A. Canning, M.D.

Results of the Gil Vernet Procedure in Preventing Contralateral Reflux in Unilateral Ureteric Reflux

A. Liard, C. Pfister, B. Bachy and P. Mitrofanoff, *Departments of Paediatric Surgery and Urology, Rouen University Hospital, Rouen, France*

BJU Int, **83:** 658–661, 1999

Objective To evaluate whether contralateral meatal advancement based on the technique described by Gil Vernet decreases the risk of postoperative contralateral reflux, which may occur after a unilateral reimplantation.

Patients and methods From January 1986 to 1997, 321 reimplantations were performed for unilateral vesicoureteric reflux (VUR) using the Cohen procedure. In cases where the contralateral meatus was symmetrical or had a pathological appearance, preventive contralateral surgery with meatal advancement was performed.

Results Ureteric reimplantation was exclusively performed unilaterally in 254 patients and in 67 a contralateral meatal advancement was performed. There were 29 cases of contralateral reflux at the 4-month follow-up. In nine patients contralateral reimplantation was necessary for persistent symptomatic VUR, the reflux resolved spontaneously in 14 and a radiological examination was necessary in six. Reflux also appeared on the Gil Vernet side in only 6% of patients; there were no clinical symptoms and the outcome was favourable.

Conclusion The advancement of the meatus using the Gil Vernet procedure is simple, with no surgical complications. We suggest that this technique constitutes a useful surgical alternative in the prevention of contralateral reflux.

Editorial Comment: There are few things more disappointing to parents than learning that their child has persistent vesicoureteral reflux on the contralateral side following a successful unilateral ureteral reimplant. Although most postoperative contralateral reflux ultimately resolves spontaneously, children (and their families) are often disappointed that antibiotic prophylaxis cannot be discontinued. The Gil Vernet procedure, as outlined in this study, seems to be effective insurance against contralateral vesicoureteral reflux following reimplant surgery. Although the appearance of the ureteral orifice on preoperative cystoscopy is not predictive of postoperative contralateral vesicoureteral reflux, if the tunnel on the opposite side looks particularly short then I usually proceed with contralateral reimplant surgery. In this setting the Gil Vernet advancement may be preferable to a more involved cross trigonal reimplant.

Douglas A. Canning, M.D.

Urinary Continence and Erectile Function After Bladder Neck Sling Suspension in Male Patients With Spinal Dysraphism

P. Dik, J. D. Van Gool and T. P. V. M. De Jong, *Paediatric Renal Centre, University Hospital for Children and Youth, Utrecht, The Netherlands*

BJU Int, **83:** 971–975, 1999

Objective To assess the outcome of using sling suspensions combined with clean intermittent catheterization (CIC) in patients with spina bifida, of whom a third are incontinent through pelvic floor paralysis.

Patients and methods Between March 1992 and April 1997, 14 male patients (mean age at surgery 11.7 years, range 6.5–15.2) with spina bifida and neurogenic sphincter incontinence underwent a puboprostatic sling suspension as a primary treatment. The procedure, via an abdominoperineal approach, consists of suspending the bladder neck by placing a simple U-shaped rectus abdominus fascial sling. The perineal approach is used to develop the plane between the rectum and Denonvillier's fascia, and to prepare the passage of the sling alongside the prostate. Apart from the sling procedure, eight of the 14 patients underwent autoaugmentation of the bladder and two underwent ileocystoplasty during the same operation. All patients used CIC daily. Erectile function was assessed by reports from the patients and their parents, and continence by report and urodynamic studies.

Results Of the 14 patients, 13 achieved urinary continence with no additional procedures; one required a subsequent submucosal injection at the suspension site with silicone particles in povidone (Macroplastique®) to become continent. Two patients reported slight leakage at night. Before surgery, all but one patient reported having spontaneous or mechanically manipulated erections; none had erections on psychological stimulation. After surgery, erectile function was preserved in 13 of the 14 patients; in one there were problems establishing the right dissection plane between the rectum and prostate, but spontaneous erections returned a year after surgery.

Conclusion In males, the abdominoperineal puboprostatic sling suspension using rectus abdominis fascia appears to be a successful treatment for sphincter incontinence in patients with spina bifida, and safely maintains erectile function.

Editorial Comment: I have found it difficult to provide consistently good continence in male patients undergoing sling procedures. The combined abdominal-perineal approach described by the authors may help to define the anatomy better and, by effectively releasing the endopelvic fascia, may allow for a more consistent suspension of the bladder neck. This approach may result in better continence rates in male patients. Because the dissection is close to but outside of Denonvillier's fascia, the neurovascular bundle seems to be consistently unharmed.

Douglas A. Canning, M.D.

Total Urogenital Sinus Mobilization: Expanded Applications

B. Ludwikowski, I. O. Hayward and R. González, *Department of Paediatric Surgery, Landeskrankenanstalten, Salzburg, Austria, and Department of Urology, Children's Hospital Michigan, Wayne State University, Detroit, Michigan*

BJU Int, **83:** 820–822, 1999

Objective To report further applications of total urogenital sinus mobilization, earlier described as an easier method to correct a cloaca.

Patients and methods Seven children (six girls and one boy, mean age 4 years, range 3 months to 10.5 years) underwent surgery and were followed for a mean of 1 year; their diagnoses included persistent cloaca and congenital adrenal hyperplasia (CAH) in two each, and a urogenital sinus (UGS), bladder exstrophy and penile agenesis in one each. The UGS is approached through a posterior sagittal incision and dissected circumferentially to the retropubic space, allowing the UGS to descend. It is then excised and separate openings of the vagina and urethra created. This technique is applicable to a UGS of $\leqslant$3 cm.

Results In all patients, separate openings for the urethra and vagina were created. In three patients urinary continence was preserved after surgery. The patient with bladder exstrophy remains incontinent. The remaining patients are too young to assess (not yet toilet-trained).

Conclusion This technique simplifies the surgical correction of UGS malformation; we confirm its usefulness in cases of persistent cloaca. It is also valuable in patients with CAH, primary UGS and in selected patients with bladder exstrophy and penile agenesis. When the UGS is not associated with a cloaca, the procedure can be performed perineally. Despite circumferential mobilization of the UGS, urinary continence is preserved.

Editorial Comment: The authors have expanded the indications for this straightforward approach to anatomy that is often difficult to access through an anterior incision. They note that, except for their 2 patients with persistent cloaca, a perineal modification of the posterior sagittal anorectoplasty can be effective in correcting a urogenital sinus in patients with congenital adrenal hyperplasia. Despite good results with splitting the rectum in the dog model and also in humans, the posterior sagittal anorectal approach with ensuing incision through the posterior and anterior rectal wall seems overly aggressive in those patients with an intact rectal

sling and good fecal continence. The application of the posterior approach with the incision extending from the anterior anal verge to and surrounding the urogenital sinus is effective. Mobilization of the bladder neck and vagina with resulting reconstruction of the perineum seems to be accomplished easily without splitting the rectum in these cases.

Douglas A. Canning, M.D.

Complications of the Preputial Island Flap-Tube Urethroplasty

A. ELBAKRY, *Department of Urology, Suez Canal University, Ismailia, Egypt*

BJU Int, **84:** 89–94, 1999

Objective To report the long-term results of hypospadias repair using tubularized transverse preputial island flaps.

Patients and methods Seventy-four patients (mean age 7 years, range 2–19) underwent a transverse preputial island flap-tube repair for hypospadias. All patients had chordee, 14 had anterior, 41 mid-penile and 19 penoscrotal hypospadias. The mean (range) follow-up was 43 (14–77) months and the outcome assessed by function and cosmesis.

Results The repair was functionally and cosmetically successful in 43 patients (58%) as a single-stage repair. Necrosis and sloughing of the neourethra occurred in five patients (7%), urethrocutaneous fistula in 17 (23%), strictures in seven (9%), diverticula in three (4%) and insignificant urethral misalignment was detected by urethrography in three (4%); thus the overall complication rate was 42%. All of these complications were treated successfully in one or two re-operations.

Conclusions The transverse preputial island flap-tube repair of hypospadias is a demanding technique. Even in experienced hands it has a relatively high complication rate. Every effort should be made to preserve the urethral plate during orthoplasty, minimizing the need to use tubularized preputial island flaps and expanding the application of onlay procedures.

Editorial Comment: The preputial island tube urethroplasty is not used as frequently as it once was now that the concept of preserving the urethral plate, even in patients with moderate chordee, is well accepted. Most patients undergo onlay island urethroplasty or tubularized incised plate (Snodgrass) procedures for hypospadias repairs. However, for patients with severe chordee in whom the urethral plate must be transected, a tubed flap can be effective. The complications outlined in this report are more a result of patient selection than an inherent shortcoming of the technique. The transverse island tube repair is now used nearly exclusively for severe hypospadias.

Despite the potential complications of a single stage repair using the transverse island tube, I prefer to correct a fistula or diverticulum following a single stage repair instead of staging the repair. In our hands the fistula rate following a 2-stage repair is not significantly different from that following a single stage repair in all but the most severe cases.

Douglas A. Canning, M.D.

The Incidence of Phimosis in Boys

K. R. SHANKAR AND A. M. K. RICKWOOD, *Department of Paediatric Urology, Alder Hey Children's Hospital, Liverpool, United Kingdom*

BJU Int, **84:** 101–102, 1999

Objective To establish the incidence of pathological phimosis in boys.

Patients and methods A 2-year review of circumcisions was performed for phimosis among a known population of boys, with the histological findings of the circumcision specimens assessed.

Results Sixty-two boys (all but one aged 5–14 years) had typical pathological (cicatrizing) phimosis and among the 51 circumcision specimens examined histologically, 43 (84%) showed appearances of balanitis xerotica obliterans. During the same period, 30 boys were circumcised for developmental unretractability of the foreskin ('physiological phimosis').

Conclusions The incidence of pathological phimosis in boys was 0.4 cases/1000 boys per year, or 0.6% of boys affected by their 15th birthday, a value lower than previous estimates and exceeded more than eight-fold by the proportion of English boys currently circumcised for 'phimosis'.

Editorial Comment: This review is interesting because the authors attempt to quantify the number of indicated circumcisions performed in Liverpool. This team has long contended that the number of episodes of true phimosis is much smaller than that reported by surgeons performing circumcision. Parental desire driven by cosmetic and cultural concerns continues to be the main indication for circumcision in a large majority of cases. The authors estimate the incidence of pathological phimosis in boys as 0.6% by age 15 years, which is a number much lower than the number of circumcisions performed, even in Britain where most children remain uncircumcised.

Douglas A. Canning, M.D.

45,X/46,XY Mosaicism: Report of 27 Cases

L. Telvi, A. Lebbar, O. Del Pino, J. P. Barbet and J. L. Chaussain, *Service d'Histologie-Embryologie-Cytogenetique et d'Anatomie Pathologique and Service d'Endocrinologie Pediatrique, Paris, France*

Pediatrics, **104:** 304–308, 1999

Permission to Publish Abstract Not Granted

Editorial Comment: Cases of 45X/46XY mosaicism are most commonly diagnosed prenatally following amniocentesis and most of these are a normal male phenotype. Cases diagnosed after birth include a wide spectrum of phenotypes. The purpose of this study was to provide more information on the postnatally diagnosed 45X/46XY mosaics. The clinical cytogenetic, endocrinological, histological and molecular biology findings of 27 patients with 45X/46XY mosaicism were analyzed in this report.

The authors divided the patients into 4 phenotypic groups. There were 9 phenotypic female patients with bilateral streak gonads, 11 with mixed gonadal dysgenesis with a combination of streak gonad on 1 side and testis or dysgenetic testis on the contralateral side, 4 with male pseudohermaphroditism with varying degrees of microphallus and perineoscrotal hypospadias, and 3 with normal male genitalia. The stigma of the Turner syndrome were the most common features with 85% of patients demonstrating short stature regardless of phenotype. Of the 27 cases 5 had renal anomalies, including malrotation, duplication, horseshoe kidney and renal dysplasia. There was 1 patient with coarctation of the aorta. The majority of patients with mixed gonadal dysgenesis were raised as female. Because of the presence of the Y chromosome, in most cases the gonads were removed between age 3 and 6 months. In 3 patients with mixed gonadal dysgenesis the streak gonads were removed but the testes were left in situ. These boys matured normally and had normal puberty. No gonadal tumors developed in any of the children in this series. Cytogenetic examination of 7 streak gonads (4 from the Turner group and 3 with mixed gonadal dysgenesis) revealed a homogenous 45X chromosomal complement.

From this series it seems that those phenotypic females with the Turner syndrome should be given growth hormone therapy. In each of the streak gonads analyzed a homogenous 45X karyotype was found, which invites speculation about the need to remove the streak gonad in all cases. Despite this finding and because the streak gonad contributes little to hormonal or fertility function, in most cases these will continue to be removed. Patients with mixed gonadal dysgenesis and normal testes should have the streak gonad removed and the normal testis brought down into the scrotum as early as possible. It appears that a large number of these patients will go through puberty with normal hormonal function. Although it is becoming more and more difficult to advise about sex rearing in children due to uncertainties about hormonal imprinting in early development, it would still seem that most patients with mixed gonadal dysgenesis are better raised as female.

Douglas A. Canning, M.D.

Acute Scrotal Pain in Children: Results of 543 Surgical Explorations

E. Van Glabeke, A. Khairouni, M. Larroquet, G. Audry and M. Gruner, *Service de Chirurgie Viscérale Infantile et Nonatale, Hôpital d'Enfants Armand-Trousseau, Paris, France*

Pediatr Surg Int, **15:** 353–357, 1999

Permission to Publish Abstract Not Granted

Editorial Comment: The authors reviewed the clinical course of 543 boys with acute scrotal pain who underwent emergency surgery between 1986 and 1996. They state that they operate in all cases of acute scrotal pain to ensure that testis torsion is not missed. Of these patients 91 (16.8%) had testicular torsion, while 250 (46%) had torsion of the appendix testis. Of the 91 children with testis torsion orchiectomy was performed in only 12, suggesting that the vast majority with torsion had successful detorsion and orchiopexy without loss of the testes. The authors found that most cases of testicular torsion involve the left side ($p < 0.001$), while epididymitis more commonly involved the right side ($p < 0.001$). Bilateral testis torsion occurred only once in this series.

The authors attempted to assess specific clinical signs as predictive of the presence or absence of spermatic cord torsion. Inflammation of the scrotum was not specific for spermatic cord torsion. Nearly half of the cases of appendiceal torsion also had an inflamed scrotum. Pain that was restricted to the upper pole of the testis was present in 41% of cases of appendiceal torsion but also in more than 12% of other diagnoses (17 testicular torsion and 2 intermittent torsion). If the cremasteric reflex was active, the chances that the patient had testicular torsion or intermittent torsion was less than 0.004. Other symptoms that predicted testicular torsion were "sudden onset of symptoms," "swollen testis" and "retracted testis."

This report is unusual because it shows a relatively pure sample of patients who went directly to the operating room if they presented with acute scrotal pain. Since the yield for testicular

torsion was less than 20% in this series, it might be argued that a large number of unnecessary procedures had been performed. However, of 91 torsions only 12 orchiectomies were performed. There were 2 additional patients who had "testicular infection" postoperatively, which may suggest that they had postoperative infarction of the testis. Even if one presumes that these additional patients lost the involved testis, an overall testicular salvage rate of more than 96% is exceedingly good.

Each year a number of reports suggest that imaging, such as color Doppler echography and/or radionuclide scintigraphy, may reduce the number of patients undergoing exploration in every large series. If one presumes a 90% specificity for testis torsion with a color Doppler study, use of ultrasound in this series would likely have reduced the number of surgeries performed by two-thirds. However, the excellent salvage rate of the involved testes in the children with torsion indicates that an aggressive operative approach to acute scrotal pain in children can be effective in preserving the testes in those with spermatic cord torsion.

Douglas A. Canning, M.D.

SOCIOECONOMICS

Randomized Trial of Informed Consent and Recruitment for Clinical Trials in the Immediate Preoperative Period

P. S. Myles, H. E. Fletcher, S. Cairo, H. Madder, R. McRrae, J. Cooper, D. Devonshire, J. O. Hunt, J. Richardson, H. Machlin, E. B. Morgan, J. Moloney and G. Downey, *Department of Anaesthesia and Pain Management, Alfred Hospital, Melbourne, Victoria, Australia*

Anesthesiology, **91:** 969–978, 1999

BACKGROUND: The standard process of obtaining informed consent sometimes prevents physicians or patients from participating in clinical trials, partly because they are concerned about eventual treatment allocation or the physician is concerned the patient might harbor some uncertainty about the best treatment. Alternative randomization methods have been advocated that may address these and other concerns. METHODS: After institutional ethics committee gave its approval, the authors interviewed 770 patients before operation and asked them to consider enrolling in a mock anesthesia trial. Patients were allocated randomly to one of five methods of randomization and consent: one-sided informed consent (the most common approach), prerandomized consent to experimental treatment, prerandomized consent to standard treatment, one-sided physician-modified informed consent, or one-sided patient-modified informed consent. Recruitment rates were compared and sociodemographic and perioperative predictors of recruitment were identified. RESULTS: The randomization method did not result in any significant difference in recruitment rates: one-sided informed consent, 55.6%; prerandomized consent to experimental treatment, 53.3%; prerandomized consent to standard treatment, 53%; one-sided physician-modified informed consent, 60.7%; and one-sided patient-modified informed consent, 56.7% ($P = 0.66$). Multivariate predictors of recruitment were patient age >45 yr (odds ratio, 1.44; 95% confidence interval [CI], 1.08 to 1.93), English-speaking at home (1.49; 1.0 to 2.21), and male researcher-male patient interaction (1.37; 1.20 to 1.57). CONCLUSIONS: No evidence emerged that alternative randomization and consent designs resulted in increased recruitment rates compared with simple one-sided informed consent for a sham anesthesia trial in patients awaiting elective surgery. Older, male patients were more likely to provide consent.

Editorial Comment: Randomized clinical trials are considered to be the cornerstone of clinical research and virtually all physicians recognize their value. Many important clinical issues remain controversial, often because of the lack of adequate randomized studies. Nonetheless, few patients participate in randomized trials.

Different methods have been used in an effort to increase patient participation in randomized trials. The authors compared patient participation depending on the method of randomization used. Intuitively, one would expect a higher rate of patient acceptance when there is prerandomization. With this process the patient is not told that he will receive 1 of 2 treatments based on a "flip of the coin" process. Rather, the decision has been made before the patients are approached and they are offered the specific treatment to which they are randomized. Another method is what the authors call "clinician determined consumer principle." With this process the patients are told that the experimental treatment may provide better results and that they will have a better chance of receiving this new treatment if they participate in the study.

Neither of these methods made any real difference in the frequency of patient participation. Of 791 patients approached 770 agreed to participate in the study, regardless of the method of randomization, which underscores what many have been saying for years. When patients are