Purpose of Review: Since the first laparoscopic pediatric nephrectomy was performed in 1992, many articles have reported the feasibility of minimally invasive nephrectomy, heminephrectomy, and nephroureterectomy in children. This article reviews the literature related to minimally invasive nephrectomy, including robot-assisted surgery, and its complications published between November 2002 and November 2004.

Recent Findings: The retroperitoneoscopic approach to nephrectomy and nephroureterectomy continues to prove successful in the pediatric population, although the transperitoneal approach is beneficial in combined upper and lower tract procedures. Initial reports on bilateral transperitoneal nephrectomy for nephrotic syndrome and laparoscopic nephrectomy for Wilms tumor are presented. Comparison studies between laparoscopic nephrectomy and open procedures are reviewed. Robot-assisted procedures are possible in children but little information is available on their pediatric use at the present time. Laparoscopy in children appears to have a similar complication rate to that in adults.

Summary: More studies are needed to compare the outcomes of minimally invasive procedures with those of open procedures. Robot-assisted surgery offers promise but expense currently limits its use.

Editorial Comment

Since the first laparoscopic nephrectomy in a child was performed by Kavoussi and Koyle in 1992, many articles have demonstrated the feasibility of laparoscopic nephrectomy, heminephrectomy, and nephroureterectomy in children but this surgical technique remains controversial in the pediatric population. This review demonstrates the feasibility, differences between laparoscopic urological surgery in adults versus children, the possible future applications of laparoscopic anatomical knowledge to decrease intraoperative morbidity and superior cosmetic results of minimally invasive surgery.

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IMAGING

Issues, controversies, and clinical utility of combined PET/CT imaging: what is the interpreting physician facing?

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Objective: This article identifies the most commonly encountered issues of combined PET/CT and shows the wide variability in perceived possible solutions to these issues. This article will serve as a catalyst to stimulate discussion between experts in both radiology and nuclear medicine.

Conclusion: Combining a PET tomography and CT scanner into a single unit amounts to advantages that are not merely additive, but synergistic. Even PET/CT skeptics will embrace the technology after becoming acquainted with the possibilities and will accept the reality that there is no return to PET only.

Editorial Comment

Combined PET/CT scanners are rapidly becoming the new standard in oncologic imaging because provides information on the morphology and function of tumors in one examination. This technology incorporates a multislice helical CT (16 or more channels) and high-resolution PET scanners. The information offered by this method has superior diagnostic capabilities and are very useful for staging neoplasms and radiation therapy planning. This an excellent article that discusses with clarity all very important issues related to the application of this new technology. Several interesting issues are discussed such as protocols of examination, how and by whom the scans are interpreted, the variability in reporting methods, where is the best place for the equipment and many other operational, educational and legal issues. The authors emphasizes that at this stage, the best indications of PET/CT are for staging patients with lymphoma, lung and colorectal cancer and for restaging patients who have undergone extensive surgery or who have had significant levels of radiation, both of which tend to distort normal anatomy and cause inflammatory changes (head and neck, colorectal, thyroid and ovarian cancer, and lymphoma). Although at this stage the role of PET/CT in the evaluation of urological malignancies is limited (detection of metastases and recurrences of renal cell cancer, identification of vital tumor tissue after chemotherapy of seminomatous germ cell tumors and detection of nodal metastases from bladder cancer), we still strong recommend the reading of this manuscript which will help the urologist to understand the several complex issues related to the application of this technology.

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Radiologic findings of segmental testicular infarction

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AJR Am J Roentgenol. 2005; 184: 1587-93

Objective: Our objective was to describe the radiologic findings of segmental testicular infarction and to establish a proper diagnosis that can avoid orchiectomy.

Conclusion: The presence of a triangular-shaped avascular intratesticular lesion on sonography or MRI and enhancement of the surrounding borders on enhanced MR images may suggest a presurgical diagnosis of segmental testicular infarction and therefore avoid a total orchiectomy in these patients.

Editorial Comment

The authors present interesting imaging findings observed in 12 patients with a relatively rare testicular disorder such is segmental testicular infarction. This condition which usually presents as an acute scrotum and may be associated with epididymoorchitis, hematologic disorders, vasculitis and postoperative changes, is usually diagnosed only after orchiectomy. In this series, an acute scrotum was the most frequent clinical presentation, being observed in 8 of 12 patients (67%). Ultrasound findings were very suggestive of this entity (solid and wedge shaped avascular area on color Doppler examination, with the vertex at the testicular mediastinum). Occasionally, however, a small rounded solid mass simulating an intratesticular tumor was observed. On contrast enhanced T1-weighted MR images, segmental testicular infarction showed an enhanced

rim surrounding the lesion in 92 % of patients. This paper is very important for calling the attention of the radiologist and urologist in order to recognize segmental testicular infarction and thus to avoid unnecessary orchiectomy. The authors concluded that these imaging findings (ultrasound and complimentary MRI in difficult cases), associated with the negative tumoral markers and short follow-up, should allow confidence in the diagnosis and thus avoid orchiectomy.

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UROGENITAL TRAUMA

The treatment of posterior urethral disruption associated with pelvic fractures: comparative experience of early realignment versus delayed urethroplasty

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Purpose: Urological treatment of the patient with severe mechanical trauma and urethral disruption remains controversial. Debate continues regarding the advisability of early realignment vs delayed open urethroplasty. We analyzed our experience with 96 patients to determine the long-term results of the 2 approaches.

Materials and Methods: We retrospectively reviewed the records of 191 men with posterior urethral disruption after severe blunt pelvic injury between 1984 and 2001, of whom 96 survived. Data on 57 patients who underwent early realignment were compared to those on 39 treated with delayed urethroplasty with an average 8.8-year followup (range 1 to 22). All patients were evaluated postoperatively for incontinence, impotence and urethral strictures.

Results: The majority of patients had severe concomitant organ injuries (78%) and severe pelvic fractures (76%). The overall mortality rate was 51%. Diagnosis of urethral rupture was based on clinical findings and retrograde urethrography. Strictures developed in 49% of the early realignment group and in 100% of the suprapubic tube group. Impotence (33.6%) and incontinence (17.7%) were less frequent in the early realignment group than in the delayed reconstruction group (42.1% and 24.9%, respectively). Patients with delayed reconstruction underwent an average of 3.1 procedures compared with an average of 1.6 in the early realignment group.

Conclusions: Early realignment may provide better outcomes than delayed open urethroplasty after posterior urethral disruption. Increased complications are not seen and, although it can be inconvenient in the massively injured patient, it appears to be a worthwhile maneuver.

Editorial Comment

Mouraviev et al, detail their extensive experience with a retrospective review of 191 urethral disruption injuries. The acute management of pelvic fracture and associated urethral injury is controversial. Classically, acute management is a “delayed approach” of placement of a suprapubic tube, percutaneously, if the bladder is