Editorial Comment

Advancement in the area of laparoscopy allowed better and minimally invasive management of ureteropelvic junction obstruction, departing from the less cosmetic but highly successful open technique. Other less invasive surgical techniques (i.e.; retrograde and anterograde endopyelotomy and Acucise endopyelotomy) offered an attractive outpatient setting but the success rates remained less than optimal. This article reveals that we have not explored all the benefits of minimally invasive laparoscopic surgery with an important caveat demonstrating that great results and low morbidity can only be achieved in high volume and experienced centers in laparoscopic surgery.

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IMAGING

Use of extended pattern technique for initial prostate biopsy

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Purpose: An extended prostate biopsy schema has been advocated at initial prostate biopsy to decrease the rate of false-negative cancer cases. However, critics have raised concerns that this may lead to the greater detection of clinically insignificant cancers. We examined the impact of using an extended pattern schema on cancer detection and also on the finding of smaller and clinically insignificant cancer.

Materials and Methods: Clinical data, including patient age, race, prebiopsy prostate specific antigen (PSA), digital rectal examination, prostate volume, number of needle cores and biopsy findings were abstracted from the medical records of all patients who underwent prostate biopsy in a 5-year period. Extended pattern prostate biopsy was defined as more than 10 cores. Clinically insignificant cancer was defined as a maximal tumor dimension of 1.0 cm or less, Gleason sum 6 or less and organ confined disease at radical prostatectomy. Adjusted regression models were developed to assess the independent effects of using an extended biopsy pattern on the detection of cancer overall and on the detection of clinically insignificant cancer.

Results: A total of 740 men with a mean age of 62.6 years were referred for prostate biopsy. Median PSA was 5.7 ng/ml and prostate volume was 39.7 cc. The OR for detecting prostate cancer was 1.55 (95% CI 1.09 to 2.19) for the extended pattern compared with standard biopsy. Of the subset of 136 patients who underwent radical prostatectomy 12.6% had clinically insignificant cancer. However, in contrast to overall cancer detection, extended pattern prostate biopsy was not found to be associated with an increased risk of detecting smaller or clinically insignificant cancer. PSA density was the single parameter found to be independently associated with the detection of clinically insignificant cancer (95% CI 0.20 to 0.98).

Conclusions: Using an extended prostate biopsy pattern involving more than 10 cores increases the likelihood of detecting prostate cancer. A significant association between more needle cores at initial prostate biopsy and finding smaller and clinically insignificant cancer was not apparent.

Editorial Comment

There is a worldwide tendency to perform an extended biopsy for the initial evaluation of a patient suspecting of prostate cancer. When both scheme of biopsy (sextant and extended) are performed in the same group of patients overall yield of prostate cancer detection varies from 0 to 35%. When we compare the results of both schemes in distinct group of patients the yield is still significant. In a recent review of our clinical database we had a 24.6% detection rate in a group of 2,647 patients submitted to sextant biopsy and a 39.7% detection rate in the group of 1,000 patients who underwent a 12-cores-scheme of biopsy (yield of 15.1%).We have to consider that in the last group many patients were biopsied because their PSA level was > 2.5 ng/mL. The authors reviewed the results of initial prostate biopsy performed in a group of 740 patients in which 136 patients with prostate cancer were treated by radical prostatectomy. The extended pattern prostate biopsy technique (more than 10 cores) increased the cancer detection rates when compared with the sextant scheme, without a significant increase in clinically insignificant disease. Clinically insignificant cancer was defined as cancer with maximal dimensions of 1.0 cm or less at prostatectomy (i.e. a diameter of 1.0 cm or less, corresponding to a volume of 0.5 cc or less), Gleason sum 6 or less and organ confined disease. This article brings us an important information about an intriguing phenomenon, which is related to the potential increasing in the number of clinically insignificant tumors by increasing the number of cores. Similarly to others studies the authors report that they found the lack of an association between an extended biopsy technique and the detection of smaller or clinically insignificant tumors. From a practical point of view one limitation of this study is that the authors used the surgical pathology results for define clinically insignificant cancer. It would be interesting to have this information before surgery. But this issue is also controversial since there are different criteria to predict insignificant prostate cancer on prostate needle biopsy (1): needle biopsies with prostate carcinoma in fewer than 3 cores (from a 6-core biopsy sample), absence of Gleason grade (pattern) 4 or 5, no more than 50% prostate carcinoma involvement in any of these cores, stage T1c and PSA density < 0.15 ng/mL (2) and focal carcinoma on sextant biopsy defined as < 3 mm in length in only one core, no Gleason grade (pattern) 4 or 5, and PSA density (PSAD) cut-off level of < 0.10 ng/mL (3). Other new information is related to PSAD, which was found to be the single parameter independently associated with the detection of overall cancer and clinically insignificant cancer. The authors found that at lower PSAD prostate cancer was less likely to be detected but a greater proportion of them were insignificant cancers and that PSAD greater than 0.2 was the threshold at which there was a lower likelihood of detecting insignificant cancer. Beyond PSAD greater than 0.3 all cancers detected were clinically significant. The authors state that the simple calculation of PSAD may be useful for determining whether the cancer detected by extended biopsies is potentially insignificant disease. Unfortunately, at least in our experience, the majority of patients submitted to the initial biopsy has PSAD < 0.2. This finding is even more pronounced when we biopsy patients with PSA level > 2.5 ng/mL.

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MDCT urography of upper tract urothelial neoplasms

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Objective: The purpose of our study was to review the MDCT urography appearance of pathologically proven transitional cell carcinomas of the renal collecting system and ureter and to correlate the MDCT urography findings with pathology findings.

Materials and Methods: Of 370 MDCT urography examinations performed over an 18-month period, 18 patients were diagnosed with 27 renal collecting system or ureteral urothelial neoplasms at endoscopic biopsy (n = 8) or surgery (n = 19). Initial MDCT reports were reviewed to determine the sensitivity of original reviewers in detecting these neoplasms. Two radiologists also retrospectively reviewed these scans and characterized the CT appearance of the neoplasms on both axial CT and 3D reformatted images. Findings at retrospective review were correlated with pathology results to determine whether any CT features could be used to predict tumor grade.

Results: Eighteen of 27 neoplasms were prospectively identified on MDCT urography, and an additional six neoplasms were detected on retrospective review. Three ureteral neoplasms could not be visualized. The 24 retrospectively detected neoplasms had three distinct MDCT appearances: circumferential urothelial wall thickening (n = 14), small masses (> 5 mm in maximal diameter) (n = 5), and large masses (> 5 mm in maximal diameter) (n = 5). All detected lesions could be seen on axial excretory phase images provided wide window settings were reviewed; however, only six were detected on 3D reconstructions. MDCT urography appearance did not correlate with tumor grade.

Conclusion: MDCT urography is a promising technique for detecting upper urinary tract neoplasms. The static 3D reconstructions used in this study are insufficient for visualization. Axial image review remains essential for tumor identification.

Editorial Comment

Multidetector CT (MDCT) urography has been shown to be a promising and effective single comprehensive examination in the evaluation of patients with hematuria or with risk for the development of urothelial malignancies. During MDCT urography the images are obtained in the unenhanced phase (detection of calculi), nephrographic-phase (detection of renal masses) and excretory-phase (detection of urothelial lesions).

The authors nicely presents the imaging findings of 24 neoplasms retrospectively detected in 18 out 370 patients submitted to the “state of the art” MDCT urography. In this investigation 89% of malignant upper tract foci were detectable with this relatively new technique. One of the several important contributions showed by this study was the possibility of detecting small tumors. These small tumors, similarly to larger ones, were both papillary and flat and both high grade and low grade. The authors were able to retrospectively detect small (< 5 mm) tumors. Similarly to larger lesions, these tumors appeared as intraluminal masses and ureteral wall thickening. Most of these small lesions were seen only on the axial images and with wide window settings.

Our early experience with MDCT has also been rewarding since we have been able to prospectively detect some cases of small urothelial malignancies, two of these confirmed as carcinoma in situ. The use of virtual endoscopy in both of theses cases was useful to confirm the presence of such small lesions and to differentiate them from ectopic or prominent papillae. Additional information was also offered to the surgeon when endoscopic resection was the modality of treatment.

As pointed out by the authors MDCT will not identify all urothelial tumors due to either its peculiar location or small size or more frequently due to technical problems (lack of opacification of the pelviocalyceal system and ureter).

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UROGENITAL TRAUMA

Management of penile fracture

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Background: Penile fracture is not a frequent event. It consists of rupture of the tunica albuginea of the corpora cavernosa. Fracture occurs when the penis is erect, as the tunica is very thin and not flexible.

Methods: This prospective study was carried out over a period of 1 year and included 12 patients presenting with penile fracture.

Results: Diagnosis was made clinically, and there was no need to perform cavernosography in any case. The most common cause of fracture was trauma to the erect penis during intercourse. Mean age of patients was 29.5 (+ /- 8.96) years, and mean time of presentation was 15.5 (+/- 8.04) hours. Subcoronal circumferential degloving incision was done in all cases. Nine patients were operated on, and three patients refused surgery and were treated conservatively. Repair consisted of evacuation of hematoma and repair of the tunical defect with absorbable sutures. The mean operative time was 33.9 (+/- 8.2) minutes. Preoperative and postoperative antibiotics were used, and all operated cases were discharged on the second postoperative day. All operated cases were able to achieve full erection with straight penis except one, in whom mild curvature and pain during erection was observed.

Conclusion: Penis fracture is a true urologic emergency. It should be treated surgically as early as possible to ensure a better outcome.

Editorial Comment

This Egyptian study is a nice review that emphasizes the importance of prompt surgical repair for the management of penile fractures. Fractures that were repaired had no organic impotence and had straight, painless erections. Those who were managed conservatively developed penile nodules and plaques, and/or penile curvature and erectile dysfunction. Penile fracture is the result of axial forces to the erect penis that result in a tear in the tunica and/or Buck's fascia of the penis. The tear in the fascia is typically transverse, involves the mid to proximal penis and is on ventral to lateral aspect. The tear can be close to or travel under the urethra, and in rare instances can extend into the corpus spongiosum or into urethra (partial or complete transactions). Patients with blood at the meatus or any degree of hematuria and penile fracture need to have the urethra evaluated for concomitant injury. This can be done preoperatively with a retrograde urethrogram or intraoperatively by flexible cystoscopy or by injecting blue-tinged saline retrograde and evaluating for extravasation. The diagnosis of