Results: Although the mean operative time was longer in the LPN than in the OPN group (210 ± 76 minutes versus 144 ± 24 minutes; P <0.001), the blood loss was comparable between the two groups (250 ± 250 mL versus 334 ± 343 mL; P = not statistically significant). No blood transfusions were performed in either group. The hospital stay was significantly reduced after LPN compared with after OPN (2.9 ± 1.5 days versus 6.4 ± 1.8 days; P <0.0002), and the postoperative parenteral narcotic requirements were lower in the LPN group (mean morphine equivalent 43 ± 62 mg versus 187 ± 71 mg; P <0.02). Three complications occurred in each group. With LPN, no patient had positive margins or tumor recurrence. Also, direct financial analysis demonstrated lower total hospital costs after LPN ($4839 ± $1551 versus $6297 ± $2972; P <0.05).

Conclusions: LPN confers several benefits over OPN concerning patient convalescence and costs, despite prolonged resection times at our current phase of the learning curve. Long-term results on cancer control in patients treated with LPN continue to be assessed.

Editorial Comment

Laparoscopic nephron sparing surgery is here to stay! Although other comparative studies have been published, this study it notable for the remarkable similarity between the open and laparoscopic groups. The data suggest that the safety and efficacy of the laparoscopic procedure is equivalent to that of open surgery, with improved convalescence and reduced cost. In addition, the authors are not part of the original group that started performing this procedure in the mid-to-late 1990's. They are part of the second wave of skilled laparoscopic surgeons who have better training, have learned from the efforts of the pioneers, and have successfully incorporate laparoscopy into routine oncologic practice. At large centers with advanced laparoscopy, laparascopic partial nephrectomy is now the standard approach to all but the most central of small renal masses. The enthusiasm for the procedure must not overcome good surgical practice, however. The difficulty of laparascopic partial nephrectomy increases dramatically as tumors are deeper and more central. Each surgeon must establish individual "comfort zones" with the lesion that he or she can tackle laparoscopically. In the early experience at our own institution, we overestimated our technique after a series of challenging but successful cases - only to have some major hemorrhagic complications (the complication that typically rewards the overconfident surgeon in this procedure). We backed off, altered our technique, slowly advanced again, and are now routinely performing laparascopic partial nephrectomies that would have failed with our technique of only a year ago. Renal hilar clamping and laparoscopic suturing are, despite great efforts to simplify the technique, still required for deep resections with the current technology. There is great hope that future advances will reduce the technical requirements, and risk, of laparascopic partial nephrectomy.

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IMAGING

Comparison of 3 different methods of anesthesia before transrectal prostate biopsy: a prospective randomized trial

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Purpose: Periprostatic nerve block (PNB) is the most common anesthesia technique used before prostate biopsy. However, needle punctures for anesthetic infiltration may be painful and cause higher infectious complications. We assessed whether addition of rectal lidocaine gel would improve its efficacy. We also investigated the efficacy and safety of tramadol, a codeine derivative, as a noninvasive method.

Materials and Methods: A total of 300 patients who underwent prostate biopsies were randomized into 4 groups of controls, PNB, perianal/intrarectal lidocaine gel plus PNB and tramadol. Pain was assessed with a numeric analog scale.

Results: Each group consisted of 75 patients, and there was a statistically significant difference among pain scores ($p = 0.001$). Mean pain scores were 4.63 for controls, 2.57 for PNB, 2.03 for infiltration plus gel group and 3.11 for tramadol. Pain and discomfort were least in PNB plus gel arm. The difference of pain score between PNB alone and tramadol group did not reach statistical significance. Infectious complications were higher in the combination group, whereas there were no complications with tramadol.

Conclusions: Any form of analgesia/anesthesia was superior to none. The combination of PNB plus gel provided significantly better analgesia compared to PNB alone or tramadol. If this can be duplicated in other trials, the combination may be accepted as the new gold standard of anesthesia for prostate biopsy. The efficacy of tramadol was similar to that of PNB, and was free of complications. Therefore, tramadol may have a role before prostate biopsy, which needs to be explored.

Editorial Comment

Several methods with different approaches have been used in the recent years in order to obtain analgesia/anesthesia for transrectal ultrasound guided biopsy of the prostate. The authors compared in a prospective randomized trial, three different methods of anesthesia before transrectal prostate biopsy and they achieved significantly better analgesia with the combination of periprostatic nerve block and intrarectal injection of lidocaine gel. They also proposed the use of intravenous infusion of tramadol as an additional procedure for improvement of patient tolerance and comfort. If there is any doubt about the benefit of using local anesthesia for prostatic biopsy this article definitely cleared this out. At our institution periprostatic lidocaine injection has been performed since April 2000. Differently from the method showed in this article where periprostatic nerve block was performed by infiltrating 2.5 cc of 2% lidocaine to the neurovascular bundle at the base of the prostate , we inject 2.5 cc of lidocaine on each side of the prostate apex. This approach has been used due the fact that in our opinion , patient discomfort during biopsy without anesthesia is higher when the prostate apex is biopsied in comparison with the prostate base(1). Following the same principles pointed out by the authors, 500 mg of paracetamol (acetaminophen; nonopiate, nonsalicylate analgesic) is orally administered, 30 minutes before the procedure. Although less potent than tramadol, paracetamol is generally well tolerated and do not have adverse events such as nausea and vomiting which can occur with tramadol in some patients particularly in older ones.This article clearly shows that the association of some type of periprostatic nerve block with intrarectal injection of lidocaine gel is a much better method.Based on their results we decided to include the use of intrarectal injection of lidocaine gel in our protocol.

Reference

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Coronal imaging to assess urinary tract stone size

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Purpose: Urinary tract stones are typically measured using axial images from computerized tomography (CT). Such images provide a precise measurement of stone length and width. However, cephalocaudad dimensions can be difficult to determine from axial images. Coronal reconstructions, which can more accurately measure cephalocaudad dimensions, are seldom used to measure stones. We determined if coronal reconstructions could aid in more precisely determining stone size.

Materials and Methods: CT in patients who had undergone CT to evaluate urolithiasis at our institution during the 9-month period of January 2001 to September 2001 were reviewed. Length and width were measured using axial images, and cephalocaudad length and width were measured using coronal reconstructions. Cephalocaudad length was also estimated from axial images. Total area was calculated from axial and coronal reconstructions. The paired t test was used to assess statistical significance.

Results: The CT images of 102 patients with a total of 151 stones had undergone coronal reconstructions and, thus, were included in the study. Mean area in the axial and coronal reconstruction groups was 22.23 and 31.29 mm3, respectively. Mean greatest axial dimension (length or width) was 4.87 mm and mean greatest coronal dimension (cephalocaudad length) was 6.51 mm. Cephalocaudad length estimated from axial images was 8.8 mm. Differences for all 3 of these comparisons (axial vs. coronal area, greatest axial vs. coronal dimension and estimated vs. actual cephalocaudad length) proved to be statistically significant ($p < 0.0001$).

Conclusions: While urinary tract stones have typically been measured using axial images, coronal images provide a different impression of stone size. These data demonstrate that examining only axial images provides an inaccurate measure of stone size. We suggest that coronal images should also be used to measure more accurately stone size, which is critical for clinical decision making.

Editorial Comment

The authors describe the impact on the estimation of the size of ureteral stone when this measurement is done also on coronal images. This is an important contribution since several studies has shown the accuracy of non-enhanced CT estimation of stone size using only the transverse plane (axial images). Size measurement and location of the stone in the ureter, are the most important determinants of therapy. The authors has shown that size measurement is precisely evaluated by non-enhanced CT, particularly when the coronal images are additionally used for obtaining an accurate volumetric measurement of the urinary calculi (greatest axial and craniocaudal length). An accurate determination of the size of the stone in the ureter is important since about 90% of stones 1 mm in diameter does pass, but less than 50% of stones larger than 7 mm pass. Urinary calculi located in the upper ureter and measuring 5 mm or more, usually do not pass spontaneously, whereas distal stones even if fairly large most often do pass. In general, stones larger than 6 mm commonly require intervention. In conclusion, radiologist should use both planes (axial and coronal) in order to obtain adequate measurement of stone size.

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