

Results: There is strong evidence in the current literature that patient tolerance and comfort during TRUS guided prostate biopsy can be improved by anesthesia/analgesia. What remains is the need to urge all urologists to introduce it in clinical practice as a routine part of the procedure, whatever the biopsy scheme.

Conclusions: Of the various options periprostatic anesthetic infiltration has been shown to be safe, easy to perform and highly effective. It should be considered the gold standard at the moment, even if the optimal technique remains to be established. Further studies addressing this issue are warranted.

Editorial Comment

The authors performed a systematic MEDLINE search of clinical trials of any kind of anesthesia, analgesia or sedation during TRUS guided prostate biopsy published since 2000. They retrieved and critically analyzed more than 40 articles dealing with different methods of decreasing pain during this procedure. As we know there is no rule to adequately predict if a patient will or will not feel too much pain or discomfort during TRUS biopsy. However, as mentioned by the authors, some risk factors associated with painful biopsy are younger age, anxiety, number of cores taken and repeat biopsy (due to the inclusion of the transition zone). This report nicely discusses the several methods and different approaches for local anesthesia during TRUS biopsy. The discussion includes the different amounts and different periprostatic sites for injection of lidocaine, the importance of using or not using intrarectal anesthetic gel instillation and its association or not with nonsteroidal anti-inflammatory. They also discuss about the possibility of using general anesthesia, entonox (50% nitrous oxide and oxygen) induced analgesia or anesthesia with intravenous injection of propofol. All the pros and cons of each procedure are well presented and discussed.

At our institution we have been using some type of local analgesia/anesthesia since 2000. We start with oral administration of 500 mg of paracetamol (acetaminophen; nonopiate, nonsalicylate analgesic), 30 minutes before the procedure (for better analgesia). Intrarectal injection of 10 ml of 2% lidocaine gel is done 10 minutes before the biopsy (to decrease pain during probe insertion), with the patient already in the left lateral decubitus. Then, periprostatic nerve block is obtained (to decrease pain during biopsy), by infiltrating, on sagittal plane, 2.5 ml of 2% lidocaine into the left and the right nerve plexus located at the junction of the seminal vesicle and prostate. After that, and on axial plane, 2.5 ml of 2% lidocaine is injected in each side of prostate apex. We have found that with this protocol, TRUS biopsy is well tolerated by the patients even when they are submitted to an extended or saturation biopsy scheme (16 - 22 cores) or rebiopsy. Only sporadically we use intravenous injection of propofol, and when it used the anesthesiologist always performs the procedure.

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UROGENITAL TRAUMA

The literature increasingly supports expectant (conservative) management of renal trauma -- a systematic review

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Background: The perfect degree of operative intervention in renal trauma is unknown. However, expectant management for most blunt renal trauma is the standard of care, and nonoperative management is increasingly accepted for stab wounds. The best treatment of gunshot wounds and vascular injuries is still unclear; however, recent data indicates that a trial of nonoperative therapy may be warranted in those not exsanguinating from the kidney. Conservative management has many benefits, the greatest of which is decreasing the rate of iatrogenic nephrectomy. We have reviewed the world's literature to determine the level of support for expectant management of renal injury.

Methods: The English language literature concerning renal trauma was identified with the assistance of Medline, and additional cited works not picked up in the initial search were obtained. One hundred and ten citations were ultimately reviewed dating back to 1947.

Results: Most modern citations support at least a trial of expectant management for renal trauma patients not exsanguinating from the kidney, and without ureteral or renal pelvis injuries. The treatment of renovascular injuries has less consensus, but it appears that 'conservative' management by the application of nephrectomy is often the best approach, although renovascular repair may be attempted in rare cases.

Conclusion: Dozens of papers going back as far as 50 years seem to support the wider use of nonoperative therapy of renal injuries, although for unclear reasons, this approach is not yet universally accepted.

Editorial Comment

The take home message is that contemporary blunt renal trauma management is nearly always conservative (expectant). Absolute criteria for renal trauma exploration are life threatening renovascular injuries. A pulsatile, expanding or uncontained retroperitoneal hematoma suggests a major vascular injury and thus demands exploration. Also, the location of the hematoma, zone 1 (medial, over the great vessels) usually demands exploration. All other renal injuries are relative indications for exploration, which include segmental renal infraction, urinary extravasations, or concomitant pancreatic or colonic injuries. For blunt renal AAST Grade IV injuries (parenchymal laceration with urinary extravasation), only 20% plus that are managed expectantly will require ureteral stent placement, percutaneous urinoma drain placement or selective embolization. UPJ avulsion injuries typically require surgical repair. Penetrating injuries theoretically should be able to be managed stage for stage, the same as blunt renal injuries. The difference with penetrating injuries, particularly, gunshot wounds, are that due to blast injury there is delayed parenchymal and vascular injury - which can later upstage the injury and thus increase delayed renal bleeding and urinary leak. Delayed bleeds and leaks can still mostly be managed endoscopically or percutaneously. The last take home message, is that in inexperienced or non-urologist hands, renal exploration typically ends with a high nephrectomy rate. Thus, when it comes to renal injuries, expectant management is usually best, unless there is a major renovascular injury (1,2).

References

1. Brandes SB, McAninch JW: Reconstructive surgery for trauma of the upper urinary tract. *Urol Clin North Am.* 1999; 26: 183-99.
2. Meng MV, Brandes SB, McAninch JW: Renal trauma: indications and techniques for surgical exploration. *World J Urol.* 1999; 17: 71-7.

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Predictors of death in patients with life-threatening pelvic hemorrhage after successful transcatheter arterial embolization

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Objective: The purpose of this study was to determine predictors of death in patients with pelvic fracture whose pelvic arterial hemorrhage is controlled successfully by transcatheter arterial embolization (TAE).

Methods: From January 1996 to December 2000, 61 patients with a pelvic fracture who had pelvic arterial hemorrhage were treated at our Level I trauma center according to a protocol that assigns a high priority to diagnostic and therapeutic angiography within the algorithm. Angiography is performed before laparotomy in patients with hemoperitoneum, who can be stabilized by fluid resuscitation, and otherwise afterward. External fixation was performed immediately after TAE in the angiography suite. Predictors of outcome were determined retrospectively by univariate and multivariate analysis using anatomic and physiologic parameters.

Results: Forty-eight patients survived and 13 died. TAE successfully controlled pelvic arterial hemorrhage in all patients. Predictors of death included posterior pelvic arterial injury and an elevated Acute Physiology and Chronic Health Evaluation II score (odds ratio, 15.6 and 23.9, respectively). Need for fluid requirements to achieve hemodynamic stability were higher in nonsurvivors than in survivors. Outcome did not correlate with the type of fracture or the Injury Severity Score.

Conclusion: Application of angiography as a therapeutic intervention in patients with pelvic arterial bleeding may reduce the need for surgery, thereby avoiding or minimizing this additional trauma.

Editorial Comment

This article from Tokyo, nicely illustrates the controversy over the timing and optimal order of external fixation (ex-fix) and transarterial embolization (TAE). One camp utilizes external fixation as first-line treatment and reserves TAE for ongoing instability after pelvic stabilization. Others aggressively advocate TAE early in the treatment and place an ex-fix after TAE. Bleeding sources from pelvic fracture are cancellous bone at fracture sites, pelvic venous plexuses and pelvic arteries. The methods to control venous bleeding are pelvic ring stabilization, re-approximation of bleeding bone edges, and closure of the pelvic ring to reduce the true pelvic volume. To control pelvic arterial bleeding usually needs TAE of injured pelvic arteries. Making the distinction of predominant arterial versus venous bleeding is often difficult in the multi-injured trauma patient. In our experience, patients with hypotension and pelvic fracture that respond poorly or transiently to resuscitation typically have arterial bleeding, while good responses to resuscitation typically excludes arterial pelvic bleeding. The other main point illustrated is the concept of “damage control”. Clearly, patients who have the fatal triad of cold, coagulopathy, and acidosis have a high mortality. Rapid resuscitation, control of bleeding, and deferring definitive repair to a later date, are the keys to the injured patient’s survival (1).

References

1. Brandes S, Borrelli J Jr.: Pelvic fracture and associated urologic injuries. *World J Surg.* 2001; 25: 1578-87.

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