UROGENITAL TRAUMA

Evaluation and management of renal injuries: consensus statement of the renal trauma subcommittee.

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Objective: To determine the optimal evaluation and management of renal injuries by review of the world's English-language literature on the subject.

Methods: A consensus conference convened by the World Health Organization and the Societe Internationale d'Urologie met to critically review reports of the diagnosis and treatment of renal trauma. The English-language literature about renal trauma was identified using Medline, and additional cited works not detected in the initial search obtained. Evidence-based recommendations for the diagnosis and management of renal trauma were made with reference to a five-point scale.

Results: There were many Level 3 and 4 citations, few Level 2, and one Level 1 which supported clinical practice patterns. Findings of nearly 200 reviewed citations are summarized.

Conclusions: Published reports on renal trauma still rely heavily on expert opinion and single-institution retrospective case series. Prospective trials of the most significant issues, when possible, might improve the quality of evidence that dictates the behaviour of practitioners.

Editorial Comment

Consensus conferences, using the so called "Cochrane Review Method" are becoming increasingly common, and may be useful to summarize intricate data sets such as how to mange complex genitourinary trauma. The technique is robust for several reasons. First, an attempt to read "every" published paper on the subject is made. Secondly, the manuscripts are carefully graded by "level of evidence" (Level 1=randomized trials; 2=prospective studies; 3=retrospective studies, 4=case series/case reports, 5=expert opinion). Third, consensus conference members are chosen with proven expertise in the field, all in order to maximize the value of the review. This particular review was sponsored by the World Health Organization (WHO) and was undertaken by the Societé Internationale d'Urologie (SIU), and represents thousands of hours of work.

In this review, over 1400 articles on the subject of renal injury were identified, although only 182 were ultimately cited in this review. Although the findings of this 14,000 word review are too numerous to discuss in detail here, I encourage readers who wish to understand the most modern and up to date treatment of renal injuries to obtain and read it. Interestingly, there were only a few prospective studies and only 1 randomized trial in existence across the whole trauma series. Clearly, the future of research in the field of genitourinary trauma will be best served by conducting prospective and perhaps even randomized studies into those questions most urgently requiring answers.

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Pediatric renal injuries: management guidelines from a 25-year experience

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Purpose: We defined the mechanism and cause of pediatric renal trauma, and developed guidelines for management based on the outcome analysis of operative vs nonoperative management.

Materials and Methods: We retrospectively reviewed 374 pediatric renal injuries at San Francisco General Hospital, comparing operative vs nonoperative management based on clinical presentation, type of renal injury, hemodynamic stability, associated injuries and the results of radiographic imaging.

Results: Blunt trauma accounted for 89% of pediatric renal trauma with a renal exploration rate of less than 2%. Penetrating trauma represented the remaining 11% with a renal exploration rate of 76%. Of grade IV renal injuries 41% were successfully managed nonoperatively based on computerized tomography and staging in hemodynamically stable children. Our overall renal salvage rate was greater than 99%.

Conclusions: Pediatric renal trauma is often minor and observation poses no significant danger to the child. In serious pediatric renal injuries early detection and staging based on clinical presentation and computerized tomography are critical for determining operative vs nonoperative management. Regardless of the type of management the standard of care is renal preservation (less than 1% nephrectomy rate in this series).

Editorial Comment

This series, from the most reliable American center of excellence in GU trauma surgery, is one of the largest pediatric series ever published. The lessons from this series are clear:

1. Most (96%) blunt pediatric renal injuries of low severity (Grades I-III).
2. Overall, 41% of Grade IV injuries were managed nonoperatively (mostly blunt).

Even some (24%) penetrating renal injuries were treated nonoperatively.

3. Few patients (1/37 explored, overall 1/374 patients seen) patients required a nephrectomy.
4. Worsening urinary extravasation required stent placement uncommonly—in only 1 case.

Large and authoritative series such as this lend further support for an initial nonoperative approach to most hemodynamically stable renal injuries, even in children. Patients with suspected Grade V vascular injuries (avulsion of the hilar vessels, and those that acutely require more than 3 units of blood, are the only absolute indications for surgery.

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PATHOLOGY

Bladder neck invasion is an independent predictor of prostate-specific antigen recurrence

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