



Editorial

Grey Areas: Challenges of Developing Guidelines in Adult Urological Trauma

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1. Background

The development and publication of clinical guidelines is one of the core activities of the European Association of Urology (EAU). The guidelines have become an essential tool for clinicians (residents and specialists), and they are widely referenced. All guidelines are based on reviews of the relevant literature using multiple available databases. The urological trauma guidelines [1] panel faces specific challenges because the majority of studies on this subject are case reports and use retrospective cohorts.

2. Guideline objectives and methodology

The objective of the guidelines panel is to summarise the available evidence and to define clinical recommendations. Five key principles are followed (Table 1). Level of evidence and grade of recommendation (GR) are modified from the Oxford Centre for Evidence-based Medicine [2].

3. Systematic review: illustrating the challenges

To improve the quality of the guidelines, the urological trauma panel identified key clinical questions that are in the process of formal systematic review.

3.1. Management of high-grade renal trauma: Is conservative or minimally invasive management of grade 4–5 renal trauma safe and effective compared with open surgical exploration?

During the past decade, there has been a paradigm shift in the management of high-grade renal trauma from emergency laparotomy and haemorrhage control to angioembolisation and parallel resuscitation. In the systematic review that was performed, 1170 abstracts were screened, and 78 retrospective comparative studies were identified as the highest level of evidence. In addition, 55 case series and 29 review articles were available. There were no prospective randomised controlled trials or previous systematic reviews on this subject, so the highest level of evidence obtained was level 3 [2]. Although nonsurgical management in high-grade renal injury is becoming standard practice in trauma centres around the world, the available supporting evidence is of low quality and thus limits guideline recommendations and the wider acceptance of this important advance.

3.2. Management of pelvic fracture-related urethral injuries: Are the outcomes of early endoscopic realignment comparable to those of suprapubic diversion and delayed urethroplasty?

In cases of pelvic fracture-associated urethral trauma, it is accepted practice to place a suprapubic catheter and to treat

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Table 1 – BASIS principles

Basics	Clinical principles
Available evidence	Literature databases
Strength of evidence evaluation	Quality and confidence
Ideals of patients	Values and preferences
Spaces	Knowledge gaps and uncertainties

Table 2 – Examples of grey areas in urological trauma

Topic		Clinical question	LE
Renal trauma	Perioperative management	DVT thromboprophylaxis	3
		Prophylactic antibiotics	3
		Mobilization	3
Imaging		Intraoperative (on table)	3
		Follow-up (early and late) imaging	3
Bladder trauma	Extraperitoneal injuries	Early versus late closure following pelvic fracture	3
DVT = deep venous thrombosis; LE = level of evidence.			

the residual urethral injury after 3 mo; however, early endoscopic realignment is advocated because it potentially obviates the need for complex surgical urethral reconstruction in up to 50% of affected cases. The debate against early realignment includes the likelihood that complete urethral disruptions will not result in healing following primary realignment and that the reported success rates are due to partial urethral injuries that are likely to heal with a suprapubic catheter alone. Primary realignment in the acute phase is also technically and logistically difficult and may make subsequent urethroplasty more difficult.

For the systematic review on this subject, 570 abstracts were screened, and 79 papers were selected, of which there were 29 comparative studies (mainly retrospective and nonrandomised) and 56 case series. There was significant heterogeneity in the assessment and treatment evaluations in these studies. Eventually, only six nonrandomised comparative studies were selected for data extraction. No randomised controlled trials were available, so the highest level of evidence obtained was level 3 [2]. Although early realignment may be a significant advance in urethral trauma management and is discussed in the current guidelines, the recommendation is for suprapubic diversion and delayed urethroplasty (GR B).

4. Grey areas in urological trauma

There are many other contentious areas within urological trauma management for which the available evidence is minimal or absent (Table 2). The two main guideline panels, those of the EAU and the American Urological Association,

produce similar recommendations based on the available literature [3].

A multidisciplinary group from Australia and New Zealand further examined practical issues such as thromboprophylaxis, prophylactic antibiotic, and mobilisation in the conservative management of renal trauma [4]. No evidence was available to support many of the recommendations that were then made by expert consensus. Although this provided a useful adjunct to the established guidelines, the GR was understandably low.

5. Conclusions

The development of clinical guidelines in the area of urological trauma has substantial limitations. High-quality evidence is sorely lacking, and it is often the case that there is no evidence at all from which to make recommendations. All too often, expert opinion is relied on for this purpose.

Although guidelines are accepted to be of significant value for clinicians, there is a need to strengthen recommendations by encouraging and establishing high-quality research. This task is particularly challenging in the field of trauma due to relatively low incidence, historically low funding, and concerns about studies in life-threatening situations.

The widespread acceptance of three factors offers hope. First is the increasing centralisation of trauma patients to major trauma centres. Second is secure data sharing among health care institutions. And third is the recognition that trauma is a significant cause of morbidity and mortality, particularly in the younger population. Along with suitable funding streams, there is great potential to facilitate well-designed prospective multicentre trials ultimately for the benefit of significantly injured patients.

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