

Current concepts on the role of Pelvic Binders in Emergency Trauma Care: A retrospective review of the literature

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Abstract

Introduction: Pelvic fractures as derived by high energy trauma are uncommon, accounting for 3-8% of all skeletal injuries. In polytrauma patients, this percentage may reach up to 25% with a mortality rate of 7-47%. Many authors suggest that the primary stabilization of such a type of injury by means of an external pelvic binder may be beneficial in patient's initial resuscitation. There is controversy about their actual usefulness while potential side effects, such as overrotation of hemipelvis, false radiographic results and pressure wounds remain a subject of discussion.

Purpose: The purpose of this study was to conduct a systematic review of the literature in search for evidence concerning the safety and effectiveness of pelvic binders in pre-hospital care.

Methodology & Strategy: More than 40 original studies between 2000 and 2020 including randomized trials, cohort studies, case reports and retrospective reviews were examined and analyzed, with special attention and significance given towards our initial questions. Papers were assessed using the "Preferred Reporting Items for Systematic Reviews & Meta- Analyses – PRISMA" methodology. Control list included papers with critical comments and results, level of evidence, duration, case numbers and clinically applicable outcomes.

Findings: All studies in this review revealed a level of combined methodology deficiency. No clear evidence that pelvic binders were as effective as supposed to be in primary patient management was found.

Conclusion: Due to ease in use, relatively low cost and side effect potential, emergency care providers are advised to use these systems. However, further studies conducted in the field and Emergency Department are needed to support strong recommendation in a priori implementation of pelvic binders in patients with suspected pelvic injury.

Note: This work is partly presented at International Conference on Critical care and Emergency Medicine (September 22-23, 2021| Madrid, Spain)