

Emergent Pelvic Fixation in Patients with Exsanguinating Pelvic Fractures

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Background

An alternative to embolization or external pelvic fixation (EPF) in patients with multiple pelvic fractures and hemorrhage is a pelvic orthotic device (POD), which may easily be placed in the resuscitation area. Little published information is available about its effectiveness. This study evaluated the efficacy of the POD compared with EPF in patients with life-threatening pelvic fractures.

Study Design

We evaluated patients with blunt pelvic fractures over a 10-year period. Inclusion required multiple pelvic fractures with vascular disruption and severe retroperitoneal hematoma, open book fracture with symphysis diastasis, or sacroiliac disruption with vertical shear. Patients with EPF were compared with those in whom a POD was used. Outcomes included transfusions, hospital stay, and mortality.

Results

There were 3,359 patients with pelvic fractures who were admitted: 186 (6%) met entry criteria; 93 had EPF and 93 had POD. There were no differences in age or shock severity. Both 24-hour (4.9 versus 17.1 U, $p < 0.0001$) and 48-hour transfusions (6.0 versus 18.6 U, $p < 0.0001$) were reduced with POD. Twenty-three percent of each group underwent pelvic angiography, and 24-hour transfusion amounts for those patients were also reduced with POD (9.9 versus 21.5 U, $p < 0.007$). Hospital length of stay (16.5 versus 24.4 days, $p < 0.03$) was less with POD. Although there was decreased mortality with POD (26%) versus EPF (37%), it was not statistically significant ($p = 0.11$).

Conclusions

The therapeutic shift to POD has substantially reduced transfusion requirements and length of hospital stay, and has reduced mortality in patients with unstable pelvic fractures. POD has made a major contribution to the care of critically injured patients with the most severe pelvic fractures.

Abbreviations: AIS, Abbreviated Injury Score; EPF, external pelvic fixation; PASG, pneumatic antishock garments; POD, pelvic orthotic device; VAP, ventilator associated pneumonia

Competing Interests Declared: None.

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