

Nonoperative Treatment of Posterior Wall Fractures of the Acetabulum After Dynamic Stress Examination Under Anesthesia: Revisited

*Andrew McNamara, MD; John Boudreau, MD; Berton R. Moed, MD;
Saint Louis University, Saint Louis, Missouri, USA*

Purpose: Performing an examination under general anesthesia using dynamic stress fluoroscopy (EUA) has been used as a tool to determine hip stability in the acute setting and has been recommended for all fractures with 50% or less of wall involvement. The purpose of this study was to provide additional radiographic and clinical follow-up data, mainly from a source other than the primary advocates of this method, to further evaluate patient outcomes.

Methods: 17 patients with an acute posterior wall fracture who underwent EUA and were found to be stable were treated nonoperatively. Posterior wall fragment size ranged from 6% to 42% with a mean of 24%. Five patients had an associated hip dislocation. Patient follow-up averaged 30 months (range, 6-64 months). Outcome evaluation included the modified Merle d' Aubigné clinical score (MMA) and the Short Musculoskeletal Function Assessment questionnaire (SMFA). Radiographic evaluation consisted of the three standard pelvic radiographs; posttraumatic arthritis was graded according to the criteria described by Matta.

Results: Radiographic evaluation showed all hips to be congruent joint with a normal joint space. 16 of the 17 patients had radiographic outcomes rated as "excellent"; one patient was rated "good" due to the presence of slightly increased sclerosis as compared to the normal side. The MMA could be obtained in 12 patients and the average score was very good, with only one having less than a good clinical outcome (fair). There was essentially no correlation between MMA and fracture size and there was no significant difference between those with or without history of hip dislocation. The patient's SMFA scores (from 11 patients, see table below) were not significantly different from the reported SMFA normals for all indices and categories (Z-test).

Conclusion: This study further supports the contention that hip joint stability after a posterior wall acetabular fracture determined by EUA is predictive of hip joint congruity, an excellent radiographic outcome, and a generally good-to-excellent early clinical outcome after nonoperative treatment. As functional outcome was shown to be not significantly different from normal, performing an EUA appears to be an effective means of determining candidates for nonoperative management of posterior wall fractures of the acetabulum. It should be considered an important evaluative tool for patients with these fractures.

Short Musculoskeletal Function Assessment Questionnaire Scores

Score	n	Min	Max	Mean	Std. Dev.
Dysfunction Index	11	.00	51.47	20.18	17.2
Daily activities	11	.00	52.50	18.63	20.0
Emotional status	11	.00	64.29	31.17	23.1
Arm/hand function	11	.00	28.13	7.38	11.2
Mobility	11	.00	69.44	24.74	23.1
Bother Index	11	2.08	81.25	25.56	27.8

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