

Functional Outcomes After Surgical Treatment Of Scapular Body Fractures

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INTRODUCTION:

Scapula fracture constitutes 3% - 5% of shoulder girdle fractures, and less than 1% of all fractures. When indicated, scapula fractures fixation will restore shoulder anatomy and improve functional outcome. The purpose of this study is to determine the functional outcomes after surgical treatment of scapular body fractures in our institution.

METHODS:

All patients with scapular body fractures who underwent surgical treatment in our center from January 2015 to August 2017 were identified. Operative indications were medial or lateral wall displacement >20mm, angulation >45⁰, medial or lateral displacement of 15mm with angulation >30⁰, double disruption of superior shoulder suspensory complex, glenopolar angle ≤22⁰, and open scapular fracture. Clinical outcomes were measured using Disabilities of the Arm, Shoulder and Hand (DASH) score, Short Form-36 (SF-36) questionnaires, range of motion (degree) and strength of the affected shoulder(kgF).

RESULTS:

Ten patients underwent ORIF of scapula in our center from January 2015 to August 2017. All patients had ≥4 months follow up (Mean: 12.7 months, range: 4 to 27 months). Mean DASH score was 28.4(±13.5). SF-36 scores were comparable to normative Malaysian population scores except physical role functioning and emotional role functioning. Range of motion and strength are presented in the following tables:

Table 1: Goniometry Range of Motion (degree)

ROM (degree)	Mean ± Stand. Dev.		
	Injured	Contralat	Inj/Con (%)
F.flexion	157 ±13.6	173.5 ±8.2	90.5
Abduction	129 ±26.5	165 ±14.9	78.2
Ext.rotate	40 ± 8.2	59.5 ±6.0	67.2

Table 2: Dynamometer Strength (kilogram-force; kgF)

Strength (kgF)	Mean ± Stand. Dev.		
	Injured	Contralat	Inj/Con (%)
Forw.flexion	5.6 ± 2.1	8.1 ± 2.8	69.1
Abduction	4.9 ± 1.7	7.2 ± 2.5	68.1
Ext.rotation	3.9 ± 1.4	6.3 ± 2.0	61.9

DISCUSSIONS:

80% of patients had DASH scores ≤29, which is categorised as functional limb. Range of motion achieved post operatively are in the functional range (forward flexion 121⁰; abduction 128⁰). Post-operative strength ranges from 61.9-69.1% of uninjured side, which is a fairly constant and reproducible outcome.

CONCLUSION:

Surgical treatment for scapular fractures is a relatively new field especially in Malaysia. This case series shows that scapular fractures that fulfill the operative indications can be treated with surgical intervention with predictably good functional outcomes.

REFERENCES:

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