Two-Year Outcomes following Arthroscopic Treatment for Snapping Scapula Syndrome

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Objectives: Snapping scapula syndrome is a rare cause of shoulder pain that can result in significant dysfunction. The purpose of this study was to report clinical outcomes following arthroscopic treatment for snapping scapula syndrome, as well as identify associated risk factors that affect outcomes.
Methods: One-hundred patients underwent arthroscopic treatment for snapping scapula syndrome from October 2005 to October 2013. This was an IRB-approved retrospective outcomes study with prospectively collected data. Patients were excluded if they had prior scapula or rib surgeries, or concomitant sternoclavicular or glenohumeral reconstructive procedures. Patients included in this study failed non-operative modalities for mechanical symptoms of snapping scapula and reported symptomatic relief from a local anesthetic injection prior to surgery. Preoperative and postoperative pain and functioning levels were assessed with the American Shoulder and Elbow Surgeons (ASES), QuickDASH (Disabilities of the Arm, Shoulder and Hand), and general health SF-12 including both physical (PCS) and mental (MCS) components. Patient satisfaction was recorded on a 10-point visual analog scale (VAS).
Results: There were 86 scapulae in 79 patients that met inclusion criteria. Mean age at time of surgery was 33 years old (range 12-65). A partial scapulectomy and bursectomy was performed in 79 scapulae, with 7 having bursectomy alone. Mean duration from onset of symptoms to surgery was 3.8 years (range 90 days-16.6 years). One patient died in the follow-up period from unrelated causes, and 6 patients refused to participate. Of the remaining 72 scapula, 8/72 (11%) failed and underwent a revision procedure at a mean of 309 days (SD+283 days). Of those that met inclusion criteria and did not require revision surgery, 86% (55/64) returned surveys with a mean follow-up of 3.4 years (range 2-7 years). There was a significant improvement following surgery in SF-12 PCS ($p<0.001$), SF-12 MCS ($p=0.043$), ASES ($p<0.001$), and QuickDASH ($p=0.001$) scores. Overall, median patient satisfaction was 7 out of 10 (range 1 to 10). Increasing age correlated with decreased postoperative SF-12 PCS ($r=-.372$;$p=0.007$), ASES ($r= .279$;$p=0.043$), and QuickDASH ($r=.350$;$p=0.011$) scores, while gender was not found to be associated with outcomes. A lower preoperative SF-12 MCS score was found to correlate with lower postoperative ASES scores ($r=.395$;$p=0.011$), while longer duration of symptoms prior to surgery also correlated with lower postoperative ASES (rho=-.296; $p=0.027$) and QuickDASH (rho=.315;$p=0.019$) scores.
Conclusion: Arthroscopic surgery is an effective treatment for individuals that have failed conservative management for snapping scapula syndrome, demonstrating significant improvements in all postoperative outcome scores at a mean of 3.4 years. Lower preoperative mental status score, greater age, and longer duration of symptoms prior to surgery were associated with poorer outcomes.

Summary of minimum 2 year outcome scores

Outcome Measures	Preoperative Mean -44 days (range -257 to -1 days)	Postoperative Mean 3.4 years (range 2- 7 years)	Change in Scores Δ	p-values
SF-12 PCS	38.5 ± 9.4	46.1 ± 10.5	7.6	<0.001*
SF-12 MCS	45.4 ± 11.2	50.5 ± 10.1	5.1	0.043*
Total ASES	52.1 ± 17.3	77.1 ± 21.7	25	<0.001*
QuickDASH	40.3 ± 18.0	23.1 ± 27.4	17.2	0.001*
Median Patient Satisfaction	--	7 (1-10)	--	--

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