



The SSN Arthroscopic Anterior and Endoscopic Posterior Release in Elite Volleyball Players



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NO CONFLICT OF INTEREST TO DECLARE



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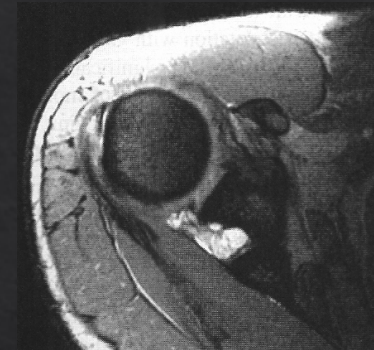
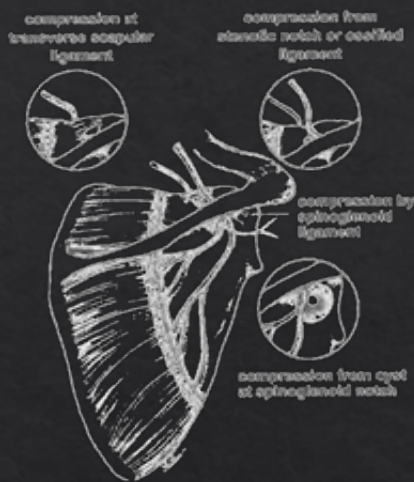


Introduction/Background: Volleyball predisposes athletes in suprascapular nerve(SSN) entrapment and shoulder injuries and vice versa, due to extreme shoulder range of movement (ROM) during hitting. SSN entrapment occurs with a frequency 12-30%, but it is often misdiagnosed. Delayed diagnosis results in poor therapeutic outcomes, while athletes experience persistent shoulder pain and dysfunction. Aim of the study was to underline the importance of early diagnosis and surgical intervention of SSN entrapment in volleyball players with simultaneous shoulder overuse syndrome and injuries, where arthroscopic release plays an important role in appropriate treatment and recovery.

Methods: Professional and elite volleyball players with intra-articular pathology (labral and rotator cuff injuries) and concomitant entrapment of the SSN were included in our study. All patients were treated arthroscopically from January 2005 to May 2022.

Diagnosis was made based on clinical examination, X-rays, nerve conduction studies, electromyography (EMG) studies and magnetic resonance imaging (MRI) arthrography.

Clinical outcomes were assessed using the pain management VAS score and evaluation of ROM.



Results: Forty volleyball players (8 females, 32 males) were included in the study, with mean age 26 (range:16-34) years. Conspicuous atrophy of the supraspinatus and/or infraspinatus was noticed. All patients underwent an arthroscopic procedure for treating their main injury and during the procedure SSN release was performed. Definite diagnosis was made intra-operatively. Partial thickness tear and posterior superior labral detachment were identified in 35 patients and anterior dislocation and massive rotator cuff tear were diagnosed in 5 patients. Anterior SSN decompression was performed in 5 patients, posterior decompression in 23 and mixed SSN decompression in 12 patients. Post-operatively all patients experienced complete pain relief, particularly at the posterior shoulder. Muscle atrophy was significantly improved at 14 months post-operatively. All athletes gradually regained full ROM. 35 patients returned to pre-injury level and were very satisfied, 3 were satisfied and 2 were partially satisfied.

Conclusion: Arthroscopy to address intra-articular pathology along with simultaneous arthroscopic SSN release in the spinoglenoid and/or suprascapular notch can effectively and safely prevent irreversible muscle wasting which occurs in advanced SSN entrapment in volleyball players and has been associated with patients' high levels of satisfaction.