Immediate Effects of Myofascial Releasing Technique in a Guitar Player with Upper Extremity Neurovascular Entrapment – A Case Report

Mustafa Onur Seyrek¹, Burcu Semin Akel²
¹Hacettepe University, Faculty of Health Sciences, Department of Physical Therapy And Rehabilitation, Ankara, Turkey
²Hacettepe University, Faculty of Health Sciences, Department of Occupational Therapy, Ankara, Turkey

Objective
Guitar players are at high risk of facing neuromuscular and musculoskeletal injuries. Guitarists are experiencing and reporting pain more than other instrumental musicians. The pain and they have, may be due to neurovascular entrapment. In this study, we aimed to relieve the symptoms caused by neurovascular entrapment by using myofascial releasing techniques.

Methods
A 38-years-old guitar player with the diagnosis of Thoracic Outlet Syndrome had stiffness and coldness at the right hand for 6 months. Inspection of the upper limbs bilaterally showed vasomotor changes. Pain was present during forearm supination at 1 cm lateral to the extensor muscles' belly. Symptoms aggravate while playing and patient had poorer performance due to the symptoms. Demographic information and painful movements were noted. Posture analysis of static erect posture and static guitar holding was made. Upper extremity neurovascular entrapment was assessed with Roos, Wright's, Adson's Tests and Suprascapular maneuver before and immediately after the session. The myofascial releasing session included releasing of right anterior and middle scalene, sternocleidomastoid, levator scapula, upper trapezius, pectoralis major and minor, subscapularis, teres major and minor, latissimus dorsi muscles and lateral and medial intermuscular septum of the right arm.

Results
The patient was playing guitar for 15 years amateurly and 3 years professionally. Average daily practicing time was 3 hours. Coldness was present at all fingers and ulnar side of the hand. Static erect posture analysis showed forward and right lateral tilt of head, shoulder protraction, right shoulder elevation, left rotation of torso, right rotation of pelvis, external rotation of hips. Static posture analysis on guitar showed tibial and femoral external rotation, left rotation and lateral flexion of torso, right shoulder protraction and elevation, excessive thoracic kyphosis and head-neck flexion, right lateral tilt and rotation of head. Before the session Roos and Wright’s tests were positive for neurovascular entrapment. Patient graded the pain at Roos Test as 6/10 on visual analog scale. Adson’s Test and Suprascapular Maneuver was negative. Pain during forearm supination was 3/10. After the session Wright’s Test was negative and pain at Roos Test reduced to 2/10. Pain during forearm supination was absent. Coldness reduced at the ulnar side of the hand but not at fingers.

Conclusion
Asymmetrical posture while playing guitar for years may cause stiffness following muscle chains from bottom to top. Assessment of the playing posture made us think, constantly depressing upper body with thoracic kyphosis cause tightness at quadratus lumborum and abdominal muscles. Right laterally rotating and tilting head make sternocleidomastoid muscle overactive. To balance the force generated by tight abdominals and forward head posture, upper trapezius, anterior and middle scalene will be overloaded. Tightness at abdominal muscles and right shoulder protraction compromises pectoral muscles and reduce subacromial space. Possible entrapment sites were between scalene muscles and under pectoralis minor. The immediate relief of symptoms contributes to the muscle chains mechanism. Therefore, myofascial releasing would be an effective approach to the guitar players who have neurovascular entrapment caused by soft tissues. Long-term follow up with larger sample is needed to provide further proof.