E-Poster

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Neurological Thoracic Outlet Syndrome Among Musicians: The One-Year Experience of a Specialized Center in Performing Arts Medicine

Topic: Specific Target Groups (Children, Women, Elderly, Athletes, Musicians, Refugees, Ethnic Groups, Workers, and Others)

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BACKGROUND

The prevalence of neurogenic thoracic outlet syndrome (TOS) and peripheral nerves compression syndromes seems to be higher among musicians and it may be related to the specific biomechanical requirements of each instrument. TOS can be caused by repetitive movements of the upper extremities or sustained postures leading to muscle overload and myofascial pain syndromes (or other disorders). Clinical presentation usually includes severe and disabling pain associated with neurological deficits that negatively impact the musical performance. We aim to evaluate the prevalence, characteristics and etiologies of TOS among musicians.

METHODS

Observational study including musicians admitted in a specialized center in Performing Arts Medicine, in 2023, with neuropathic pain as the main reason for consultation, in whom TOS were diagnosed, after evaluation by a Physical Medicine and Rehabilitation (PMR) specialist, specialized in Performing Arts Medicine. A multimodal plan, including education, physiotherapy modalities, exercise program, ultrasound-guided myofascial intervention, and optimization of the musical performance, were implemented. Follow-up data one-year after treatment are presented. The performance-related pain, its associated disability and the interference in musical performance were measured by the Performance-related Pain among Musicians Questionnaire (PPAM), at baseline (first consultation), after treatment, and one-year of follow-up. The statistical analysis was performed using SPSS v27.

RESULTS

Among the 107 musicians presenting neuropathic pain as the main reason for consultation, 42 (39.2%) were diagnosed with neurogenic TOS. All of them also presented myofascial pain syndrome involving ipsilateral neck muscles (mainly scalene muscles) and this entity was identified as being the cause of the TOS in all cases. Other causes were excluded. The majority were professional musicians, playing upper string instruments (48% played violin, 28% viola, 14% guitar, 5% cello and 5% double bass. The duration of pain until the diagnose (first consultation) was, on average, 7.5 years and the left upper extremity was more affected. The successful treatment with a multimodal approach allowed the complete resolution of the symptoms and deficits. All musicians could resume to the professional activity with no limitations. At one-year follow-up, musicians presented asymptomatic and with no signs of recurrence.

CONCLUSION

TOS is a common but underdiagnosed source of pain among musicians. Myofascial pain syndrome seems to be highly associated. The biomechanical requirements of string instruments may explain the high prevalence of TOS among upper string musicians. A multimodal approach was essential for the early return to performance without limitations.

Statement of Disclosures

None

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