

Unusual isolated distal spinal accessory nerve palsy in weight lifter : a Case report

Tae Im Yi^{1†}, Yoon Jeong Jeong^{1*}, Joo Sup Kim¹, Hyo Jeong Lee¹

BundangJesaeng General Hospital, Department of Rehabilitation Medicine¹

Introduction

Spinal accessory nerve injury is well-documented complication of surgical procedures in the posterior cervical triangle of neck. However, the insidious spinal accessory nerve palsy is considered a few instances in the literature. We present an unusual case study of isolated distal spinal accessory nerve palsy only involved mid to lower trapezius in a young male weight lifter.

Case presentation

A 30-year-old male presented with asymmetric muscle contractions in inter-scapular area. His career is a body builder, and he did a heavy lifting exercise every day. There were no history of traumas, falls or any precipitating events. The onset of his symptoms occurred 2 months ago with a right-sided upper back pain while he was putting down a heavy dumbbell with one hand after the benchpress exercise. He described the pain as intermittent and dull, ranging from 3 to 4 out of 10 on a numeric pain rating scale. Pain improved after a few days with NSAID. A few weeks later, he came to our hospital after feeling asymmetry of upper back during shoulder retraction exercise. On physical examination there was no sensory loss, but the scapular dyskinesia during the arm elevation and the atrophy localized in the right-sided inter-scapular area were observed (Fig. 1). His past medical history was unremarkable. On the ultrasonography, the rhomboid and upper trapezius muscles were symmetrical on both sides, but the right muscle thickness of trapezius muscles in the mid to lower part were decreased (Fig. 2). Spinal accessory nerve conduction studies demonstrated that low amplitude compound muscle action potential recording mid to lower segment of the right trapezius with normal distal latency. But upper trapezius findings were normal. A needle electromyography of the mid to lower trapezius muscles revealed signs of remarkable denervation potentials and markedly decreased motor unit action potential recruitment in volition. The upper trapezius, rhomboid and sternocleidomastoid muscles showed no signs of denervation. On T2-weighted magnetic resonance imaging(MRI) identified no space occupying lesions except mild diffuse atrophy with signal change of right lower trapezius muscle (Fig. 3). Consequently, we diagnosed the incomplete lesions of isolated distal branch of spinal accessory nerve spontaneously involved mid to lower trapezius. The cause is unknown, but it might be related to traction-type injury based on patient's past history .

Conclusion

We report a case of unusual isolated distal branch of spinal accessory nerve palsy involved mid to lower trapezius muscles in a young weight lifter. In this case, the nerve

lesion occurred spontaneously during self-exercise without a definite trauma. Although the peripheral nerve lesion should be confirmed by electromyography, ultrasonography could be used helpful for localization of lesions at initial diagnostic approach for asymmetrical weakness.

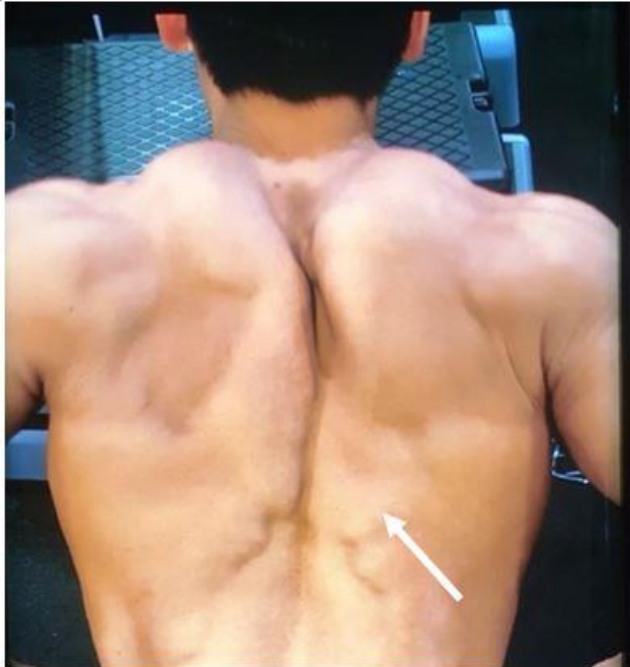


Fig. 1. Physical examination of the patient reveals severe atrophy of the right mid to lower trapezius muscle (arrows).

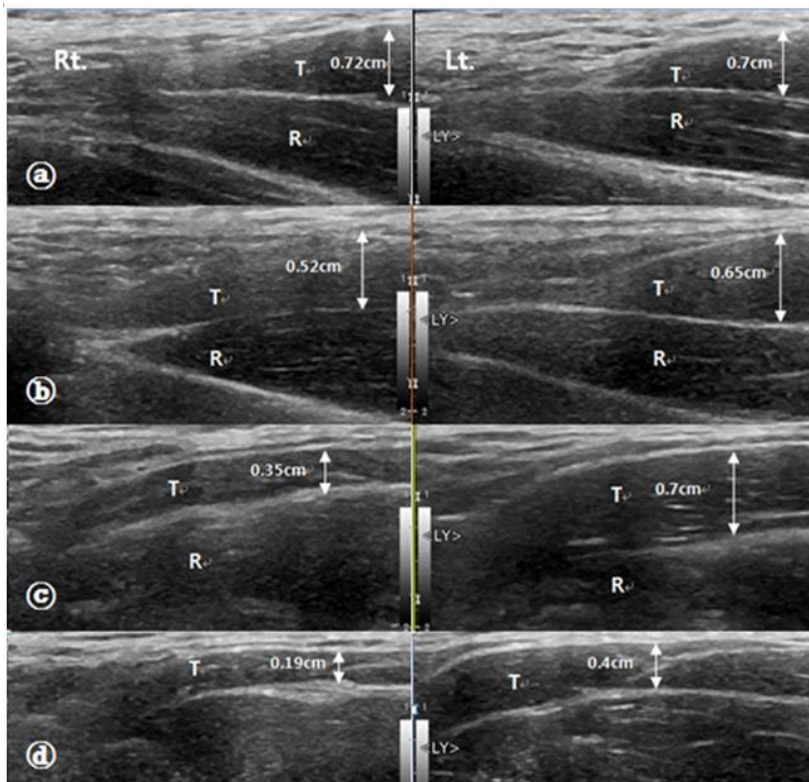


Fig. 2. Ultrasonography showed atrophy of middle and lower component of the trapezius.

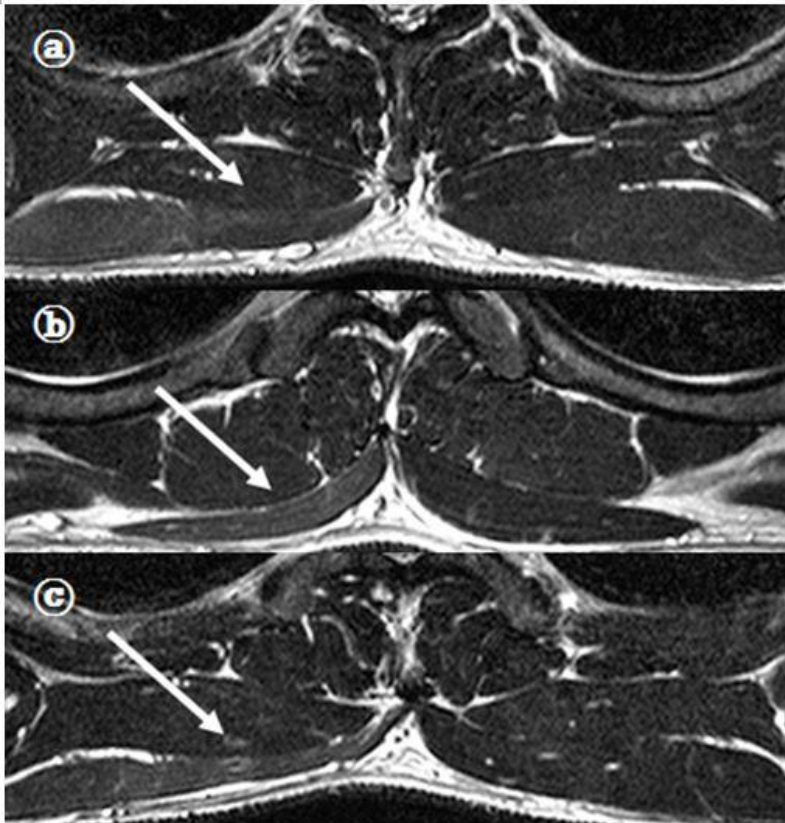


Fig. 3. Transverse views of T2-weighted magnetic resonance imaging(MRI) reveal marked wasting in the muscle bulk of mid to lower part of the right trapezius (arrows). (a) T2 level, (b) T4 level, (c) T7 level.