

Knowledge of muscle variations in the major compartments of the thoracic outlet: The key in recognition of thoracic outlet syndrome

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Thoracic outlet syndrome include upper extremity symptoms that occur due to compression of the brachial plexus and subclavian-axillary vessels in the thoracic outlet region, between the neck and the axilla (1-3). Although the etiology of thoracic outlet syndrome is multifactorial, in many patients musculoskeletal abnormalities resulting in a compression of neurovascular structures were detected (1-5). Most patients' complaint of arm pain, hand numbness, weakness and wasting of the hand muscles and rarely with some circulatory changes. These symptoms tend to worsen by any prolonged activity of the arm (1-3).

Unfortunately, there is no single criterion and no specific physical tests for detection of thoracic outlet syndrome (1,2). The diagnosis is usually based on a combination of clinical, electrophysiological tests and the use of different imaging modalities. This diagnosis also requires different specialists to identify a cause and location and to provide information for eventual surgical repair (1-3).

A good knowledge of the variant structures, possibly compressing the neurovascular structures from the base of the neck to the axilla, is essential for clinicians to identify the cause of thoracic outlet syndrome (6).

The variant structures are divided according to the major compartments of the thoracic outlet:

1. The interscalene triangle (variation of the anterior and middle scalene muscles).

2. The costoclavicular space (aberrant fibrous bands).

3. The retropectoralis minor space (deep axillary arch muscle).

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