Introduction

The upper part of brachial plexus and the subclavian/axillary vessels could be vulnerable in four main areas: the superior thoracic outlet, the scalene triangle, the costoclavicular interval (space) and the coracoid-pectoralis minor loop, and symptoms of compression syndromes may be developed [1]. According to Pratt [1], the most critical point appears to be the costoclavicular space and symptoms could be provoked by bone or soft tissue anomalies including different variant structures [2,3].

Case Report

An interesting case of bilateral fibrous bands in the costoclavicular space of a 58-year-old male cadaver during routine anatomical dissection. On the left side, a strong fibrous band extending between the inferior surface of the lateral two-thirds of the clavicle and the coracoid process to the medial end of the first rib was found. On the right side, a similar but thinner structure was discovered. On both sides the variant fibrous structures replacing the subclavius muscle, reduced the costoclavicular space thus led to a possible entrapment site for the brachial plexus and the subclavian/axillary vessels, and may be involved in the development of thoracic outlet syndrome. © IJAV. 2009; 2: 57–59.

Discussion

Around the human clavicle, in relation to the subclavius muscle, a number of variant muscles have been described [2,4,5]. However, the subclavius itself shows a remarkable constancy of its structure, the trends of its variations being in the direction of duplicity, due essentially to anomalous differentiation of the primary pectoral muscle sheet [6]. Another subclavius muscle abnormality is its absence, defined as an excessively rare anatomic variant [6]. There may be a total subclavius absence [7] or the muscle body may be replaced by a fibrous band [4,5,8]. In the cases reported up to day, however, this fibrous replacement was detected only on one side. Here, we present a rare case of bilateral replacement of the subclavius by fibrous bands. The present fibrous bands narrow the interval between the clavicle and first rib, which is essential for development of the brachial plexus and the coracoid process to the medial end of the first rib. This variant fibrous band passed along the under surface of the clavicle, reducing vastly the costoclavicular interval.

Key words (variation) (fibrous bands) (costoclavicular space) (thoracic outlet syndrome) (human)
and venous symptoms may be resulted [3]. There is no single criterion and no specific physical tests for TOS existence [1]. The diagnosis is based on a combination of clinical and electrophysiological criteria and the use of different imaging techniques [9,10]. Therefore, good knowledge of the variant structures, possibly compressing the neuro-vascular structures from the base of the neck to the axilla, including the here reported fibrous bands, may help clinicians identify the cause of TOS.

Figure 1. Photograph (a) and schematic anterior view (b) of the structures described. (Arrowheads: the variant fibrous bands; RC: right clavicle; LC: left clavicle; RT: right trapezius; RSCM: right sternocleidomastoid; RD: right deltoid; RPMi: right pectoralis minor; LT: left trapezius; LSCM: left sternocleidomastoid; LD: left deltoid; LPMi: left pectoralis minor; AA: axillary artery; AV: axillary vein; BP: brachial plexus)

References

Bilateral fibrous replacement of subclavius muscle


