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Case Report

Bilateral calcified stylohyoid ligament: An incidental autopsy finding with medicolegal significance

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ABSTRACT

Eagle's syndrome occurs due to elongation of the styloid process or calcification of the stylohyoid ligament, which then may produce a pain sensation due to pressure exerted on various structures in the head and neck region. A case report of calcified stylohyoid ligament found incidentally at autopsy and further confirmed by computed tomography scan and histopathology is herein discussed with associated medicolegal significance.

1. Introduction

Eagle's syndrome is an aggregate of symptoms that includes recurrent throat pain, foreign body sensation, dysphagia and facial pain as a direct result of an elongated styloid process or a calcified stylohyoid ligament [1]. The human stylohyoid chain includes the styloid process, the stylohyoid ligament and the lesser cornu of the hyoid bone. The stylohyoid ligament is a connective tissue band originating from the apex of the styloid process and is attached to the lesser cornu of the hyoid bone. For no obvious reason it occasionally ossifies and forms a solid structure. Although partial ossification of the stylohyoid ligament is not uncommon, complete ossification is rare [2–4]. A diagnosis is made both by physical examination and radiographically. A case report of calcified stylohyoid ligament found incidentally at autopsy and further confirmed by computed tomography (CT) scan and histopathology is herein discussed with associated medicolegal significance.

2. Case report

A 45-year-old man, a professional coconut tree climber accidentally fell from a height of around 35 feet tall coconut tree while on work. He was immediately shifted to the emergency unit of a nearby hospital, where he was declared brought dead.

At autopsy, the body was that of a moderately built male, 156 cm in height and 42 kg in weight. Blood mixed mucoid fluid was found oozing out from both the nostrils and oral cavity. On palpation, crepitations were felt all over the face, neck and front of the chest suggestive of traumatic subcutaneous emphysema, associated with multiple fractures of the facial bones. Examination of the chest revealed abrasions of minor dimensions bilaterally with fracture of the right 2nd to 7th ribs anteriorly along the midclavicular line, fracture of the left 2nd to 6th ribs anteriorly along the mid axillary line, horizontal fracture of the body of the sternum corresponding to the 5th intercostal space associated with diffuse contusions along the paravertebral gutter and the posterior thoracic wall. The right lung showed a laceration measuring $4 \times 3 \times 2$ cm over the lower lobe posteriorly associated with 800 ml of frank blood in the right pleural cavity. The other internal organs including the brain and the heart were intact and unremarkable. The cause of death was opined as internal haemorrhage

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secondary to blunt force traumatic impact to the chest, due to a fall from a height.

Dissection of the neck region showed bilateral bony hard vertical structures extending from the lesser cornu of the hyoid bone, directed backward and upward to fuse with the styloid process at the base of the skull on both the sides. The right stylohyoid ligament was completely calcified measuring 6 cm in length and 0.3 cm in diameter. The left stylohyoid ligament was partially calcified measuring 2.5 cm in length and 0.2 cm in diameter (Figs. 1 and 2). Morphologically there was no evidence of fracture. The neck structure block (hyoid bone with bilaterally calcified stylohyoid ligaments, thyroid cartilage, cricoids, arytenoids and upper tracheal rings) was subjected to a three-dimensional CT (3DCT) scan which confirmed calcification of both the stylohyoid ligaments which was partial on the left side and complete on the right side (Figs. 3 and 4). Histopathology of the calcified stylohyoid ligaments showed the presence of cartilage, bone and bone marrow (Fig. 5).

Retrospective information obtained from the investigating authorities and the relatives of the deceased revealed an unremarkable past medical history with absence of hospital records

Fig. 1. Dissected neck structure block with calcified right stylohyoid ligament (arrow).

Fig. 2. Hyoid bone and bilateral calcified stylohyoid ligaments.

Fig. 3. Lateral CT image showing completely calcified stylohyoid ligament on the right side (arrow) and partially calcified one on the left side.

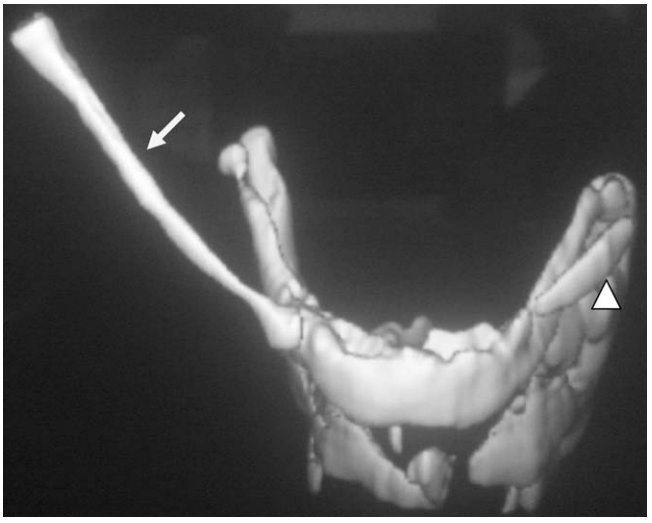

Fig. 4. Antero-posterior CT image showing completely calcified stylohyoid ligament on the right side (arrow) and partially calcified one on the left side (arrowhead).