

**IJCRR**

Vol 05 issue 22

Section: Healthcare

Category: Case Report

Received on: 26/06/13

Revised on: 29/07/13

Accepted on: 02/09/13

BILATERAL ADDITIONAL HEAD OF STERNOCLEIDOMASTOID MUSCLE - A CASE REPORT

Seema Prakash, Parveen Ojha, Ghanshyam Gupta

Dept. of Anatomy, R. N. T. Medical College, Udaipur, RJ, India

E-mail of Corresponding Author: drparveena@yahoo.com

ABSTRACT

During routine dissection of head and neck region in an adult male cadaver additional clavicular head (third head) of sternocleidomastoid muscle was noticed bilaterally. Knowledge of such additional head of sternocleidomastoid is important for anaesthetists, radiologists and surgeons to avoid complications during various procedures like central venous catheterizations and flap transfers performed in this area.

Keywords: Additional head, Sternocleidomasroid

INTRODUCTION

Sternocleidomastoid descends obliquely across the side of neck and form a prominent surface landmark especially when contracted. Neck is divided into anterior and posterior triangle by this muscle. Muscle is attached inferiorly by two heads. The medial or sternal head arises from upper part of anterior surface of manubrium sterni. While the lateral or clavicular head ascends almost vertically from superior surface of medial third of clavicle. The two heads are separated near their attachment by a triangular interval which corresponds to a surface depression lesser supraclavicular fossa. Sternocleidomastoid insert superiorly by a strong tendon into lateral surface of mastoid process and by a thin aponeurosis into lateral half of superior nuchal line. Clavicular fibres are mainly to mastoid process, the sternal fibres are more oblique and superficial and extend to occiput¹. Any variation in origin of sternocleidomastoid muscle can lead to narrowing of lesser supraclavicular fossa and can cause complications during Internal Jugular Vein cannulation. So anaesthetists, radiologists and surgeons must be aware of these variations to avoid hazards during various procedures in these regions.

OBSERVATION

During routine dissection of the neck region in an adult male cadaver, skin and superficial fascia with platysma muscle was reflected. Deep fascia was incised and Sternocleidomastoid muscle on both the sides was exposed. Its sternal head originated from manubrium sternii bilaterally. Clavicular head had two origins on clavicle namely medial and a lateral. This was noticed bilaterally. Lateral origin of the clavicular head (i.e. the third head) was from the superior surface of middle third of clavicle and it ascended as a thin belly and blended with other fibres of sternocleidomastoid near their normal insertion. Nerve supply of all the three heads was from spinal part of accessory nerve.

DISCUSSION

Variations in origin of both sternal and clavicular heads of sternocleidomastoid muscle have been reported but variations in clavicular head is more commonly seen in the literature than sternal head. Usually the clavicular origin is narrower than the sternal head. When the clavicular origin is broad it is subdivided into several slips separated by narrow intervals. Additional clavicular heads were reported by Rao et al (2007)². Unilateral

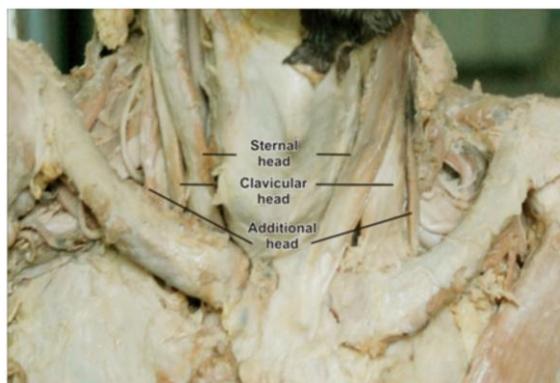
additional clavicular head is reported by Cherian *et al* (2008)³ and Fazliogullari *et al* (2010)⁴. Unilateral additional sternal head has been reported by Natsis *et al* (2008)⁵ while Nayak *et al* (2006)⁶ reported it bilaterally. Kaur *et al* (2013)⁷ have reported six heads of origin of sternocleidomastoid muscle.

Knowledge in variations of sternocleidomastoid muscle is important for head and neck surgeons and plastic surgeons during various surgical procedures in this area. Plastic surgeons can make best use of this additional head for muscle graft³. Anaesthetists, for central venous catheterization prefer internal jugular vein cannulation, as this approach has a lower incidence of pneumothorax. Any variation in origin of sternocleidomastoid muscle can lead to narrowing of lesser supraclavicular fossa, which can complicate internal jugular vein cannulation⁵.

Knowledge of additional heads of sternocleidomastoid muscle in patients with post irradiation induced muscle spasm can help us to understand the need of altered higher dose of Botulinum Toxin injection in treating such patients.⁸ Awareness of variations in sternocleidomastoid muscle is important for anaesthetists, surgeons and radiologists to avoid complications while treating the patients.

REFERENCES

1. Standring S; Berkovitz, B. K. B.; Hackney, C.N.; Ruskell, I. G. L. Gray's Anatomy. The Anatomical Basis of Clinical Practice. 39th Churchill and Livingstone, Edinburgh, 2005. P. 536
2. Ramesh R T, Vishnumaya G, Prakashchandra, S. K and Suresh, R. *Int. J.*
3. *Morphology* 2007; 25(3):621-623
4. Cherian SB, Nayak S. A rare case of unilateral third head of sternocleidomastoid muscle. *Int. J. Morphology* 2008; 26 (1):99-101
5. Fazliogullare Z, Cicekcibasi AE, Dogan NU, Yilmaz Mt, Buyukmumcu M, Ziylan T. The levator clavicular muscle and unilateral third head of sternocleidomastoid muscle : Case report. *Int. J. Morphology* 2010; 28(3): 929-932, 2010
6. Natsis K, Asouchidou I, Vasileiou M, Papathanasiou E, Noussios G, Parakevas G. A rare case bilateral supernumerary heads of sternocleidomastoid muscle and its clinical impact. *Int. J. Morphology* 2007; 25:621-23
7. Nayak SR, Krishnamurthy A, SJMK, Pai MM, Prabhu LV, Jetti R. A rare case of bilateral sternocleidomastoid muscle variation *Morphologie*. 2006 ;(295):203-4
8. Kaur D, Jain M, Shukla L. Six heads of origin of sternocleidomastoid muscle: a rare case. *Internet Journal Of Medical Update*; 2013 July; 8(2):62-64
9. Boaro SN, Frago Neto RA. Topographic variation of sternocleidomastoid muscle in a just been born children. *Int J morphol*. 2003; 21: 261-264



BILATERAL ADDITIONAL HEAD OF SCM MUSCLE