

A Fortutious Anatomical Variant: "Sternalis" – A Case Report



Medical Science

KEYWORDS : Sternalis Muscle,
Fortutious

Dr. Sumedha Wadhwa	Department of Surgery, Bharati Vidyapeeth Hospital and Research Centre, Pune Satara Road, Dhankawadi, Pune-411043
Dr.S.S.Chandorkar	Faculty, Department of Surgery, Bharati Vidyapeeth Hospital and Research Centre, Pune Satara Road, Dhankawadi, Pune-411043
Dr.Suhas Taralekar	Faculty, Department of Surgery, Bharati Vidyapeeth Hospital and Research Centre, Pune Satara Road, Dhankawadi, Pune-411043
Dr. Madhav Thatte	Faculty, Department of Surgery, Bharati Vidyapeeth Hospital and Research Centre, Pune Satara Road, Dhankawadi, Pune-411043

ABSTRACT

Sternalis is rare muscle encountered in the subcutaneous plane during mastectomy. Hence it is important to be aware of this rare entity & identify the muscle early so that dissection plane is appropriate. Also some breast tissue extending deep to the muscle should not be neglected during surgery.

Case Report:

A 45 year old female was diagnosed as a case of Right Carcinoma Breast. She was posted for Right Modified Radical Mastectomy.

Intraoperatively longitudinal muscle fibers over pectoralis major muscle were found. These muscle fibers were located on the anterior thoracic wall, along the right lateral border of the sternum. They originated as a tendon from the fascia of the right rectus abdominis and external oblique aponeurosis, ran upwards on the right lateral border of the sternum, finally inserted into the tendon of the right sternocleidomastoid muscle.

Result and Discussion:

The sternalis muscle is an uncommon anatomical variant. It is located on the human anterior pectoral wall, superficial to pectoralis major. Jelev described this muscle originating from sternum or intraclavicular region & inserting into rectus sheath, costal cartilage, or lower ribs. In Gray's Anatomy this muscle is described as ascending from lower costal cartilages & rectus sheath to blend with sternocleidomastoid muscle or to attach to the upper sternum or costal cartilages.

This muscle has been reported both in males and females, and in whites, blacks and Asians. Incidence of this muscle varies with sex, race & ethnicity. In Europeans it is 4.4%, in Africans 8.4%, Asian 11.5%, Indians 4.8%, Japanese 31.1%, Chinese 1%. The average range of incidence is 3 – 6 %.

It may be unilateral or bilateral.

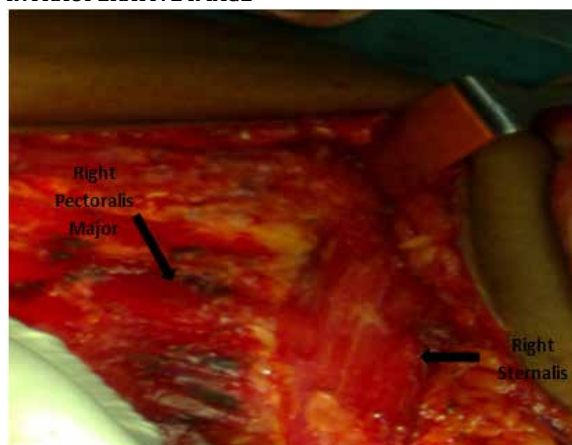
There is a close relationship of the Sternalis muscle with both external and internal thoracic and intercostal nerves.

As regards to the function of this muscle, normally when a muscle contracts, the insertion is pulled by the origin. Therefore, contraction of Sternalis, because of its particular location, may elevate the lower chest wall, an action achieved by other muscles in those without it. Thus Sternalis, at most, plays only an accessory role in this function. As to its clinical significance, this muscle is visible in mammograms and on CT and MR imaging.

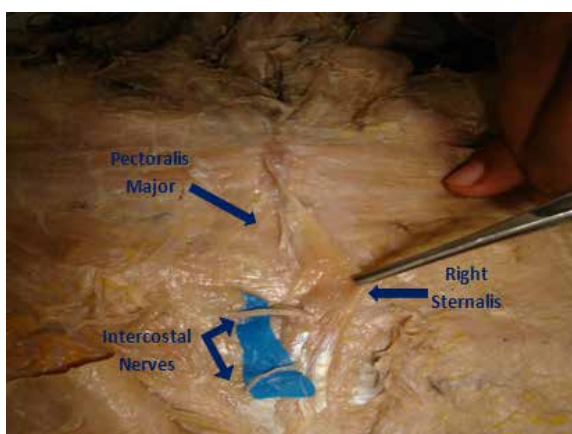
Conclusion:

- 1) On a literature search about the anomalies of rectus muscle, it was found to be rare rectus muscle.
- 2) As it lies close to sternum it is named Sternalis.
- 3) One should be aware of this anomalous muscle and the possibility of extension of breast tissue deeper to this muscle, which needs complete clearance, especially in cases of carcinoma breast.

INTRAOPERATIVE IMAGE



CADEVERIC IMAGE



ANATOMICAL REPRESENTATION

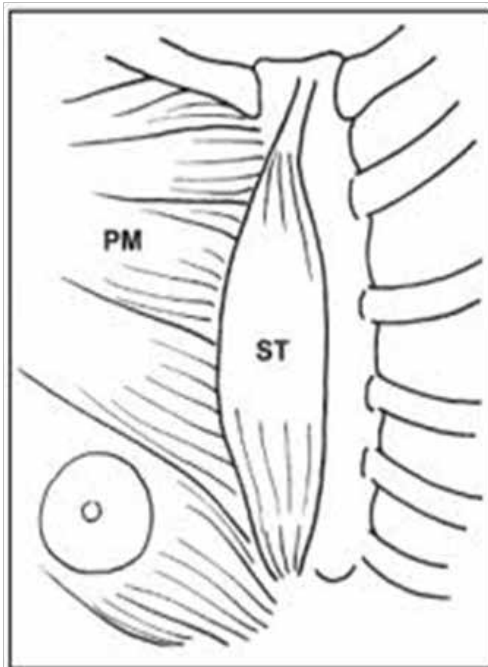


Fig-2: Diagrammatic illustration of the sternalis muscle (ST) and pectoralis major (PM).

REFERENCE

1. Harish & Gopinath described that pectoral nerves supply the Sternalis muscle. They also state that Sternalis fibres are derivatives of pectoralis major fibres.
2. Shah, Jelev, Yap, Barlow say that anterior Cutaneous branches of intercostal nerve supply this muscle & Sternalis fibres are upward continuation of rectus abdominis fibres.