Sternalis Muscle: Not So Uncommon Entity

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The entity is well known among the anatomist with incident rate of 4.4–11.5%, but not so among surgeons or radiologist. It has been variably labeled as “episternalis”, “presternalis”, “sternalis brutorum”, “rectus thoracis”, “rectus sterni”, “superficial rectus abdominis”, and “japonicus” in different era and articles. They lies Superficial to Pectoral fascia and deep to Subcutaneous fascia. They originate from Upper end of Sternum but the insertion is often variable including rectus sheath, ribs, costal cartilage etc. It’s embryology & nerve supply is debated [1].

Their functional role in proprioception of chest wall movement has been speculated but not proven. They have surgical

importance many folds including mistaken for tumor on imaging during primary staging or follow-up, may be useful for surgical reconstruction to cover lumpectomy defect or to cover implant, may alter Electrocardiogram. They are labeled as rare entity as they often go unreported, hence rarity may be questioned [1, 2].

We came across two cases in last 1 year. In last first case as depicted in Fig. 1A, a well-formed sternalis muscle is visible with insertion onto the rectus sheath. We identified this entity during mastectomy for breast cancer and as stated above missed on imaging. In second case (Figs. 1b and 2), we identified the sternalis muscle on

Fig. 1 Intraoperative picture of sternalis muscle form origin to insertion on first (a) and second case (b)

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Fig. 2 The intraoperative picture of small sternalis muscle (second case) on the right side (**a**) and the corresponding computed tomography imaging picture of same patient (**b**) with inset (**c**)

computed tomography imaging of the chest. The muscle had a limited belly with insertion into the costal cartilage of the fourth rib.

Compliance with Ethical Standards

Conflict of Interest The authors declare that they have no competing interests.

References

1. Raikos A, Paraskevas G, Tzika M, Faustmann P, Triaridis S, Kordali P (2011) et al. Sternalis muscle: an underestimated anterior chest wall anatomical variant. *J Cardiothorac Surg*;6(1)
2. Sasmal P, Meher S, Mishra T, Deep N, Tripathy P, Sternalis Muscle RS (2015) An unexpected finding during mastectomy. *Case Rep Surg* 2015:1–3