A Rare Presentation of Post Sternotomy Internal Mammary Artery Pseudoaneurysm

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Abstract: A 62 year old female presented with complaint of pulsating swelling on right para sternal region. She is a post CABG patient for which sternotomy was done. Patient was advised CT Angiography of Thoracic Aorta for further evaluation. On CT Angiography of thoracic aorta, There is a pseudo aneurysm noted arising from internal mammary artery at right para sternal region of anterior chest wall, at the level of sternal end of 2nd rib, at sternotomy site. No evidence of any luminal thrombosis.

Keywords: Internal mammary artery, Pseudoaneurysm, Post sternotomy, Pulsating swelling, CT Angiography

1. Introduction

The internal mammary artery is a paired artery which runs on each side of the sternum. It terminates as superior epigastric and musculophrenic arteries between 6th and 7th costal cartilage.

Both blunt and sharp chest-wall trauma may lead to damage to the IMA, leading to bleeding into the mediastinum or pericardium.

Pseudoaneurysms are a disruption in the arterial wall continuity, which can be due to inflammation, iatrogenic causes or trauma, such as surgical procedures, percutaneous biopsy and drainage. Under the influence of sustained arterial pressure, blood dissects into the tissues around the damaged artery and forms a perfused sac that communicates with the arterial lumen (1) leading to pseudo aneurysm.

Pseudoaneurysm of Internal mammary artery can be spontaneous or can result from a variety of causes including systemic infection, local infection, central venous catheterization, and penetrating injury. (2)

Internal mammary artery pseudoaneurysm following sternotomy, vascular access procedures and trauma are very rare. (3)

IMA pseudoaneurysm may be noticed as a pulsatile swelling or present as mediastinal haematoma or haemothorax with or without haemodynamic instability. (4)

2. Case Report

History: A 62 year old female presented with complaint of pulsating swelling on right para sternal region. She is a post CABG patient for which sternotomy was done. Patient was advised CT Angiography of Thoracic Aorta for further evaluation.

Examination:

a) BP-150/90 mm of Hg
b) Other vitals normal.

c) No tenderness

3. Investigations

CT Angiography of Thoracic Aorta:

There is a pseudo aneurysm measuring approx. 3.5 x 2cms noted arising from internal mammary artery at right para sternal region of anterior chest wall, at the level of sternal end of 2nd rib, at sternotomy site.

No evidence of luminal thrombosis seen.

Visualised carotid vessels and bilateral vertebral arteries are normal in course and calibre.

Ascending aorta, arch and descending thoracic aorta are normal in course and calibre.
angiography have resulted, although CABG. Complication shown above.

Invasive mammary pseudoaneurysm due to sternotomy, surgical repair in the form of ligation of the parent IMA and evacuation of the haematoma has been described (9).

Endovascular embololotherapy offers an effective and safe alternative to management and is currently the favoured form of treatment for the Internal Mammary Artery pseudoaneurysm (5).

- Internal mammary artery pseudo aneurysm, post sternotomy is a rare presentation.
- They mostly present as pulsatile swellings.
- CT Angiography MDCT is mostly done for diagnosis of the above.

References