

## CONTINUING MEDICAL EDUCATION ΣΥΝΕΧΙΖΟΜΕΝΗ ΙΑΤΡΙΚΗ ΕΚΠΑΙΔΕΥΣΗ

### Medical Imaging Quiz – Case 24

A 54-year-old female presented to the emergency department complaining of constant sharp chest wall pain for 1 month. Past medical history was negative and the patient had no fever or cough. The physical examination revealed pain reproduction by palpation of the right side of the upper claviculosternal joint. Auscultation of the heart and lungs, as well as examination of the skin for herpes zoster rash had no findings. Primary laboratory examinations for myocardial infarction were negative and the patient chest X-ray revealed no significant findings.

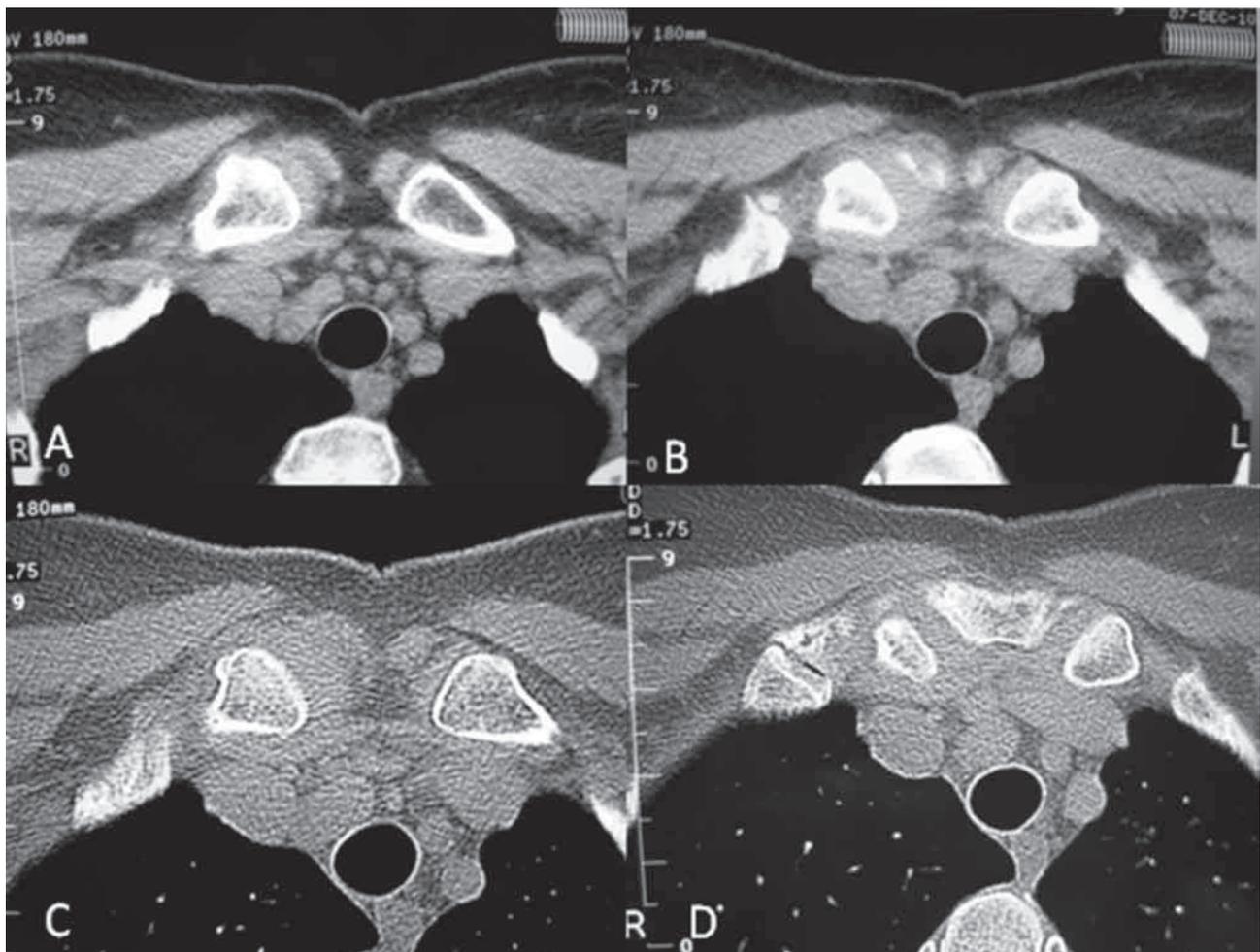
A CT scan of the thorax was performed to exclude underlying

pathology. In this CT scan no findings were documented as far as the mediastinum and the lungs are concerned. Neverthe-

ARCHIVES OF HELLENIC MEDICINE 2012, 29(2):266–267  
ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2012, 29(2):266–267

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**Figure.** CT-scan shown swelling in the second right claviculosternal junction with no lesion in adjacent bone (A-D).

less a hypertrophy was detected in the right clavicolosternal cartilage.

### Comment

A diagnosis of Tietze syndrome was the most appropriate choice from the findings of the CT scan, although there is no specific report in the literature for clavicolosternal osteochondritis. Patient's symptoms remission and the second negative CT scan confirmed the diagnosis of a variant of Tietze syndrome as one articulation was assaulted.

Tietze syndrome is a benign and harmless form of osteochondritis often mistaken for heart disease. It is an inflammation of a single costal cartilage of the upper front of the chest causing visible enlargement of the costochondral junction. The 70% occurs in a single rib, usually within costal cartilages of ribs two through three, predominantly in rib two.

Patients with Tietze syndrome develop tenderness and swelling over the ribs and cartilage near the breast bone (sternum). Redness, tenderness, and heat can also be present, but a localized swelling is the distinguishing finding. The pain is variable, often sharp, can be confused with heart pain, and can last from hours to weeks. It can cause difficulty with sleeping and even rolling over in bed is sometimes painful.

Tietze's syndrome should be distinguished from costochondritis, a condition involving the same area of the front of the chest. Costochondritis is not associated with swelling, as opposed to Tietze syndrome where swelling is characteristic. Its pain was often exacerbated by upper body movement and deep breathing. Costochondritis can be aggravated by any activity that involves stressing the structures of the front of the chest cage. It is generally best to minimize these activities until the inflammation of the rib and cartilage areas has subsided.

The rate or C-reactive protein test can show signs of inflammation in patients with Tietze syndrome, whereas patients with

costochondritis alone typically have normal tests for inflammation.

Other conditions that cause costal pain are infectious, rheumatologic, and neoplastic processes. Infection is particularly associated with chest wall trauma, such as in patients with stab wounds, postsurgical patients, and those who use intravenous drugs. Less common causes include primary neoplasms of the rib, lung, pleura, and muscle, and metastatic disease to the costal cartilage.

Rest, anti-inflammatory drugs, physical therapy, and even cortisone injections have been used as therapy for the inflamed, painful cartilage of both Tietze syndrome and costochondritis. Ice packs applied to local swelling can sometimes help to reduce pain and inflammation. Local lidocaine analgesic patch application can reduce pain.

### References

1. CUBUK R, TASALI N. Medical image. Tietze's syndrome. *NZ Med J* 2009, 13, 122:87–88
2. VOLTERRANI L, MAZZEI MA, GIORDANO N, NUTI R, GALEAZZI M, FIORAVANTI A. Magnetic resonance imaging in Tietze's syndrome. *Clin Exp Rheumatol* 2008, 26:848–853
3. ANTICO A, GHIDOTTI I, ALLEGRI M, ESPOSITO A, GENTILE D. Tietze's syndrome: A case report and topical methods in diagnostic imaging. *Monaldi Arch Chest Dis* 1994, 49:208–210
4. HONDA N, MACHIDA K, MAMIYA T, TAKAHASHI T, TAKISHIMA T, HASEGAWA N ET AL. Scintigraphic and CT findings of Tietze's syndrome: Report of a case and review of the literature. *Clin Nucl Med* 1989, 14:606–609

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