Sternal malunion mimicking an artifact

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CASE REPORT

An 85-year-old female was referred to our hospital with right hip pain following a fall at home. She was hospitalized to the department of orthopedic surgery for an operation for trochanter major fracture. She had hypertension and a history of a motor vehicle accident about 10 years ago.

During her preoperative evaluation, chest X-ray showed an increased density like an anterior mediastinal tumor. The patient was referred to thoracic surgery and on physical examination there was a fixed, hard sternal mass about 10x10 cm in diameter. The motor vehicle accident on her anamnesis explained the findings on her X-ray and physical examination. A thoracic computed tomography scan well demonstrated the sternal malunion which mimicked a motion artifact (Figure 1, 2). The patient did not remember the details about the motor vehicle accident but she gave the information that she has been hospitalized at that time and as understood from her anamnesis she was treated conservatively. An operation was planned for sternal

reconstruction but due to her advanced age, it was not done.

DISCUSSION

Operative treatment of sternal fractures is not an accepted routine approach. In general conservative treatment with painkillers is adequate. Surgical repair is for cosmetic reasons, difficulty in extubation due to an unstable flail chest and intractable pain [1, 2]. Sometimes after conservative treatment, fracture union problems requiring surgical repair might be seen. After sternal fracture due to blunt trauma or some surgical procedures via sternotomy, the most important problems are debilitating pain, non-union or as reported in this case a “mal-union” [1-3]. There are different ways to repair such as T-shaped plate, linear or 8-hole titanium plates combined with or without bone matrix [1-4]. For our patient operative treatment was not considered due to her advanced age and concomitant disease.

CONCLUSION

We are of the opinion that surgical repair of sternal fractures should be kept in mind as an alternative treatment option especially for younger patients, keeping in mind such mal-union problems.

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Figure 1: A) Due to malunion, sternum is seen to be doubled, like an artifact; B) Another section of computed tomography scan showing malunion.

Figure 2: Three dimensional computed tomography demonstrating the malunion of sternum.

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The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

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