Published online: 25/10/2016 Published print: 10/2016

CASE REPORT

doi: 10.5455/medarh.2016.70.398-400
Med Arch. 2016 Oct; 70(5): 398-400
Received: AUG 25, 2016 | Accepted: SEP 30, 2016

A Rare Case of Hamartoma Chest Wall Following Trauma in a 42-year-old Man

Mojtaba Ahmadinejad[1], Asghar Alie Pour[2], Peyman Khadem Hosseini[3], Amir Masoud Hashemian[4], and Koorosh Ahmadi[3*]

[1]Department of Surgery, Alborz University of Medical Sciences, Karaj, Iran
[2]Department of Pathology, Lorestan University of Medical Sciences, Khorram Abad, Iran
[3]Department of Emergency Medicine, Alborz University of Medical Sciences, Karaj, Iran
[4]Department of Emergency Medicine, Mashhad University of Medical Sciences, Mashhad, Iran

Corresponding author: Koorosh Ahmadi , Department of Emergency Medicine , Alborz University of Medical Sciences, Karaj, Iran. Tel: +9891 24806577. E-mail : kooroshem@gmail.com

ABSTRACT

Background: Chest wall mesenchymal hamartoma (CWH) is a distinct and extremely rare tumor-like lesion of the thorax. It usually presents in the neonatal period or in infancy. The common presentation is in the form of a visible chest wall mass with or without respiratory distress. **Case presentation:** A 42-year-old man with a history of chest wall trauma since 5 years ago was admitted with a swelling of the anterior of the chest wall and during this period has grown slowly. Physical examination showed a left anterior chest wall deformity. Chest radiographs and chest CT showed a left anterolateral chest wall mass involving the fourth and fifth ribs. Thoracotomy was performed. The tumor and involved ribs were resected with a 5cm safe margin. The histopathologic examination showed hamartoma. The patient has been fallowed up since 60 month ago, and has not had any complaints in this time. **Result:** Despite the rarity of chest wall hematoma, this side effect must always be taken into consideration while studying the chest wall injuries especially in the case of trauma history due to other differential diagnosis and her side effects such as respiratory problems. **Conclusion:** Although rare, this condition ought to be kept in mind while dealing with hamartoma Chest wall following trauma in order to avoid its complications such as respiratory problems. Surgical excision is usually curative in combination with conservative therapy if possible.

Key words: Hamartoma, Adult , Chest wall.

1. INTRODUCTION

Chest wall mesenchymal hamartoma (CWH) is a distinct and extremely rare tumor-like lesion of the thorax (1). It usually presents in the neonatal period or in infancy.

The common presentation is in the form of a visible chest wall mass with or without respiratory distress. Mesenchymal hamartoma has a benign course and is often mistaken for a malignant tumor both radiologically and on histopathologic studies (2).

Surgical indications include cardiac or pulmonary compromise caused by compression or physically deforming masses (3, 4, 5). The role of conservative management is uncertain because the natural history of the lesion is unknown (6).

2. CASE REPORT

A 42-year-old man with a history of chest wall trauma since 5 years ago was admitted with a swelling of the anterior of the chest wall And during this period has grown slowly (Figure 1).

Physical examination showed a left anterior chest wall deformity. Laboratory investigations including CBC, U/A, liver, and renal function test results were normal. Chest radiographs and chest CT showed a left anterolateral chest wall mass involving the fourth and fifth ribs (Figure 2).

Thoracotomy was performed. The tumor and involved ribs were resected with a 5cm safe margin (Figure 3).

The histopathologic examination showed hamartoma (Figure 4).

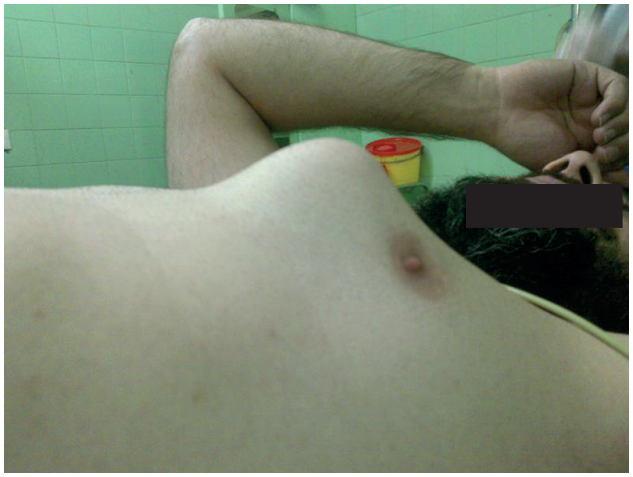

Figure 1. A 42-year-old man was admitted with a swelling of the anterior of the chest wall

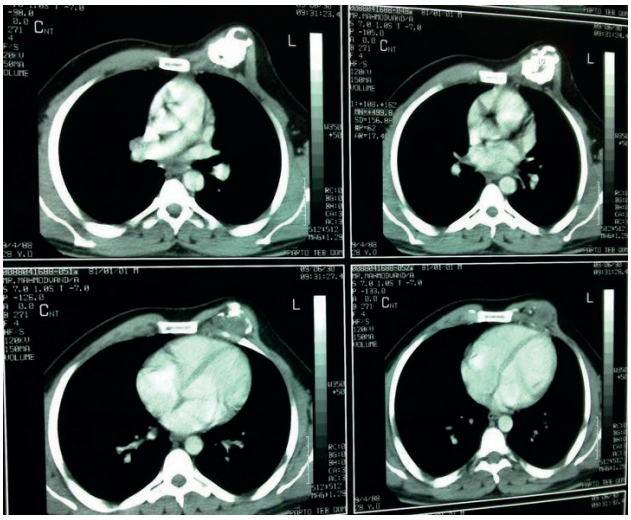

Figure 2. A left anterolateral chest wall mass involving the fourth and fifth ribs

The patient has been fallowed up since 60 month ago, and has not had any complaints in this time.

3. RESULT

Despite the rarity of chest wall hematoma, this side effect must always be taken into consideration while studying the chest wall injuries especially in the case of trauma history due to other differential diagnosis and her side effects such as respiratory problems. Surgical interventions, conservative treatment and, in rare cases, radiotherapy and chemotherapy can be really effective.

4. DISCUSSION

Chest wall mesenchymal hamartoma is rare lesion usually seen in infants (7). Its incidence is estimated to be 1 in 3000 among primary bone tumors (8) or less than 1 in 1 million in the general population (9). Mesenchymal hamartoma is more common in males (2).

Mesenchymal hamartoma is not a true neoplasm (9). The usual mode of presentation is a visible chest wall mass with or without respiratory symptom (2). Mesenchymal hamartoma of the chest wall is usually multi-focal and develops early in fetal life (10). It commonly presents at or shortly after birth as an extrapleural mass

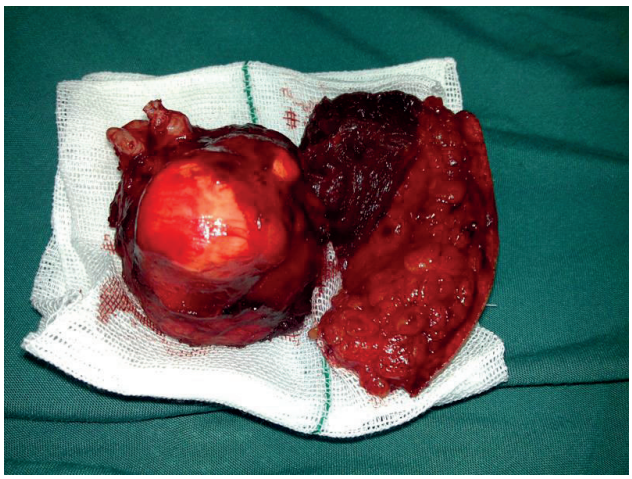

Figure 3. Recived specimen in formalin consists of a multinodular cartilaginous tissue with some calcification measuring 5×4×4cm. portions of skin tissue and soft tissue structures also are present measuring 4×4×2cm. SOS=M/4 E=4%

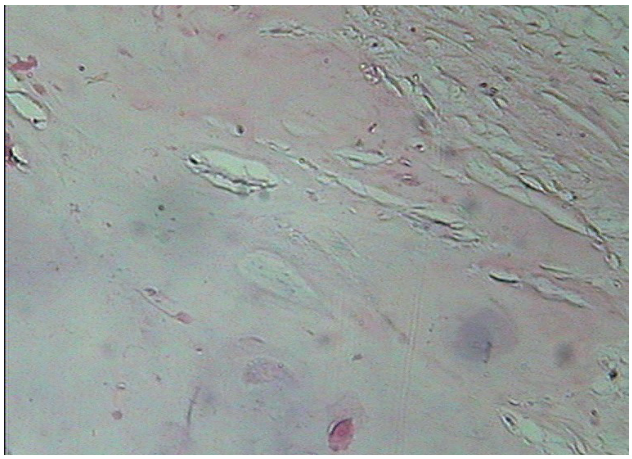

Figure 4. Sections show multiple fragments of disorganized hyaline cartilage surrounded by proliferating fibrovascular tissue, newly deposited bone and mineralized areas

arising from the rib cage with or without respiratory distress (6). The mass can present as an intrathoracic and/or extrathoracic lesion. It is mostly unilateral and more often in the right hemithorax (11, 12).

Bilateral mesenchymal chest wall hamartomas are rarer and may be confused with a malignancy (13). The most important diagnostic tools of CWH are the radiological characteristics on plain chest x-ray, computed tomogram, and magnetic resonance imaging (14).

On plain chest x-ray, it appears as an extrapleural mass originating from one or more ribs containing irregular areas of mineralization and ossification. The ribs are completely destructed centrally and distorted or partially eroded at the periphery because of the mass effect of the lesion (15, 16).

CT is especially more helpful in making the diagnosis because it demonstrates the bony origin of lesion and intralesional calcification (11, 17).

Although definitive diagnosis can be made only by histopathologic examination, fine-needle aspiration cytology has provided accurate cytologic assessment of those characteristics distinctive for MH when correlated with imaging and clinical features (18, 19).

Various treatment modalities have been described including surgical removal of the mass lesion and thermal radio-ablation (8).

Management of MH may be surgical, which is complete resection followed by prosthetic mesh repair of chest wall or by conservative approach, depending on the clinical presentation (2).

The treatment of choice for these symptomatic lesions is wide en bloc excision of the involved part of the chest wall including the involved ribs, underlying pleura, intercostal muscles, and neurovascular bundles (18, 20). Radiotherapy or chemotherapy has been used in some cases; however, they do not offer any established therapeutic benefits (18). The main complications encountered with surgical treatment include significant chest wall deformity and progressive scoliosis. There is also a trend toward conservative management unless there is respiratory compromise or significant deformity (21).

5. CONCLUSION

Although rare, this condition ought to be kept in mind while dealing with hamartoma Chest wall following trauma in order to avoid its complications such as respiratory problems. Surgical excision is usually curative in combination with conservative therapy if possible.

- **Author's contribution:** All authors were included in all phases of preparing this article, including final proof reading.
- **Conflict of interest:** none declared.

REFERENCES

1. Brand T, Hatch EI, Schaller RT, Stevenson JK, Arensman RM, Schwartz MZ. Surgical management of the infant with mesenchymal hamartoma of the chest wall. J Pediatr Surg 1986; 216: 556-8.
2. Sodhi KS, Aiyappan SK, Menon P, Dey P, Khandelwal N. Unilateral multifocal mesenchymal hamartoma of the chest wall: a case report and review of literature. J Pediatr Surg. 2009; 44(2): 464-7.
3. Psaila J, Carachi R, Raine PA, Patrick WJ. Thoracic mesenchymoma of infancy. J Pediatr Surg. 1996; 31(5): 726-8.
4. Lisle DA, Ault DJ, Earwaker JW. Mesenchymal hamartoma of the chest wall in infants: report of three cases and literature review. Australas Radiol. 2003; 47(1): 78-2.
5. Freeburn AM, McAloon J. Infantile chest hamartoma case outcome aged 11. Arch Dis Child. 2001; 85(3): 244-5.
6. Braatz B, Evans R, Kelman A, Cheng W. Perinatal evolution of mesenchymal hamartoma of the chest wall. J Pediatr Surg. 2010; 45(12): 37-40.
7. Odaka A, Takahashi S, Tanimizu T, Kawashima H, Inokuma S, Ishida H. et al. Hamartoma associated with a massive fetal pleural effusion: a case report Chest wall mesenchymal. J Pediatr Surg. 2005; 40(5): 5-7.
8. Bertocchini A, Falappa P, Accinni A, Devito R, Inserra A. Radiofrequency thermoablation in chest wall mesenchymal hamartoma of an infant. Ann Thorac Surg. 2007; 84(6): 2091-3.
9. Van den Berg H, van Rijn RR, Merks JH. Management of tumors of the chest wall in childhood: a review. J Pediatr Hematol Oncol. 2008; 30(3): 214-21.
10. Ayala AG, Ro JY, Bolio-Solis A, Hernandez-Batres F, Eftekhari F, Edeiken J. Mesenchymal hamartoma of the chest wall in infants and children: a clinicopathological study of five patients. Skeletal Radiol. 1993; 22(8): 569-76.
11. Groom KR, Murphey MD, Howard LM, Lonergan GJ, Rosado-De-Christenson ML, Torop AH. Mesenchymal hamartoma of the chest wall: radiologic manifestations with emphasis on cross-sectional imaging and histopathologic comparison. Radiology. 2002; 222(1): 205-11.
12. Altaner S, Yoruk Y, Bilgi S, Puyan FO, Doganay L, Kutlu K. Multifocal mesenchymal hamartoma of the chest wall. Respirology. 2006; 11(3): 334-8.
13. Kerrey B, Reed J. A neonate with respiratory distress and a chest wall deformity. Pediatr Emerg Care. 2007; 23: 565-9.
14. Nicholson SA, Hill DA, Foster KW, McAlister WH, Davila RM, Dehner LP. Fine-needle aspiration cytology of mesenchymal hamartoma of the chest wall. Diagn Cytopathol. 2000; 22(1): 33-8.
15. Mcleod RA, Dahlin DC. Hamartoma (mesenchymoma) of the chest wall in infancy. Radiology. 1979; 131: 657-61.
16. Szadowska A, Jarosik N. Mesenchymal hamartoma of the chest wall in infancy: a case report of this rare entity with cytologic findings. Cytopathplogy. 1996; 7: 211-7.
17. Schlesinger AE, Smith MB, Genez BM, McMahon DP, Swaney JJ. Chest wall mesenchymoma (hamartoma) in infancy. CT and MR findings. Pediatr Radiol. 1989; 19(3): 212-3.
18. Andiran F, Ciftci AO, Senocak ME, Akçören Z, Göğüş S. Chest wall hamartoma: an alarming chest lesion with a benign course. J Pediatr Surg. 1998; 33(5): 727-9.
19. De Rosa GP. Progressive scoliosis following chest wall resection in children. Spine. 1985; 10: 618-22.
20. Dounies R, Chwals WJ, Lally KP, Isaacs H Jr, Senac MO, Hanson BA. Hamartomas of the chest wall in infants. Ann Thorac Surg. 1994; 57(4): 868-75.
21. Kabra NS, Bowen JR, Christie J, Glasson M. Mesenchymal hamartoma of chest wall in a newborn. Indian Pediatr. 2000; 37(9): 1010-3.