DESMOID TUMOR OF THE CHEST WALL: A CASE REPORT.

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ABSTRACT:

Desmoid tumor (DT) of chest wall is very rare soft tissue tumor. Biopsy is essential important to pathological diagnosis because clinical examination and radiological imaging are inconclusive. Surgical excision with safety margin is the mainstay to prevent local recurrence. We report a case of a 43 years old female with a painless hard fixed mass in right chest posteriorly. The mass was completely excised with safety margin. Pathological examination was revealed desmoid tumor. No postoperative complication or recurrence was reported 2 years later.

INTRODUCTION:

Desmoid tumors (fibromatosis) are rare slow growing benign and musculoaponeurotic origin[1]. Desmoid tumors(DT) do not metastasized, but it is potentially local invasive[2]. Chest wall desmoid-type fibromatoses are very rare[3]. Wide local resection remains the best therapeutic approach, but the risk of local recurrence is high[4].

Surgery, radiation therapy, and chemotherapy have been used to treat extra-abdominal desmoid tumors (EADT). However, their effectiveness is limited by frequent local recurrences[5].

We herein report a rare case of desmoid tumor because of its atypical location and no recurrence.

CASE REPORT

A 43 years old female presented with a swelling in the right back of chest. A physical examination revealed palpable painless hard fixed mass in the posterior right chest wall measuring 12×4 cm in dimensions. Chest CT (Computerized Tomography) scan revealed a soft tissue mass in right chest wall posteriorly involved 8th rib. Incisional biopsy was done to exclude medical tumors and pathological examination revealed desmoid tumor. Limited thoracotomy was performed at 6th intercostal space posteriorly just above tumor. Excision of involved rib and rib above with other below after securing neurovascular bundles. Parietal pleura adherent to mass was excised. Then, a complete excision of the mass , 8th rib with rib above and below, and involved soft tissue with muscle were performed under general anesthesia. Closure of the chest was performed without need of chest wall reconstruction and lastly insertion of two intercostal chest tubes (ICT).

Postoperative course was uneventful without paradoxical movement or seroma or infection. Apical ICT was removed on 2th postoperative day (POD) and basal ICT was removed on 5th POD. Pathological report revealed a desmoid tumor with safety margin. She refused adjuvant radiotherapy. No recurrence occurred through 3 years of follow-up.

FIGURES

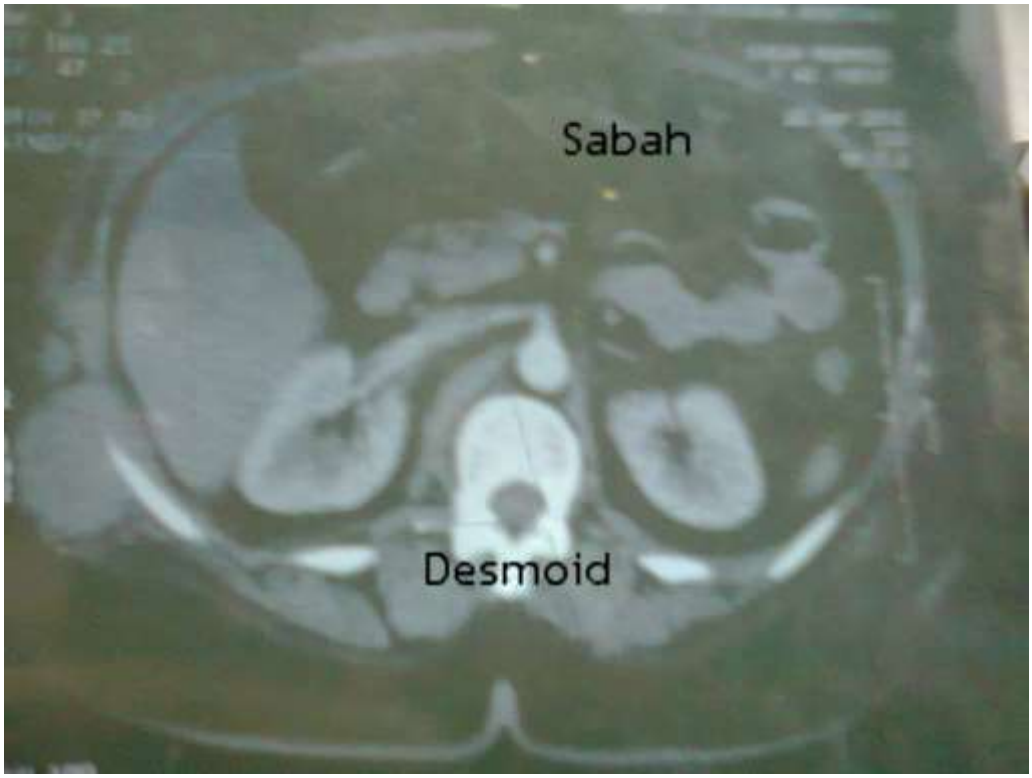

Fig. (1): CT chest is showing soft tissue swelling involving Rt 8^{th} rib posteriorly .

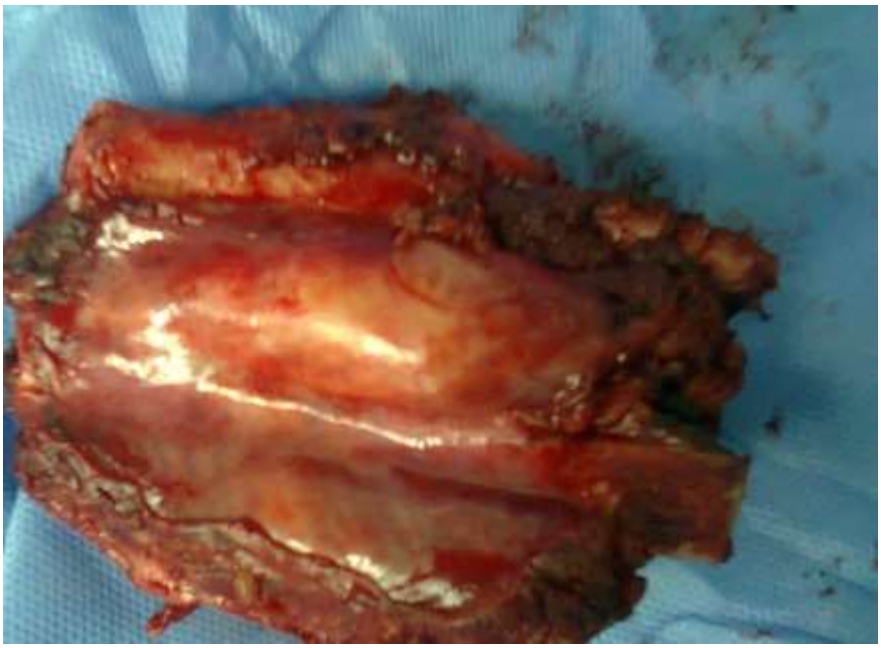

Fig. (2): Specimen is showing enbloc resected of hard mass involving 7^{th}, 8^{th} and 9^{th} ribs with safety margins.

DISCUSSION:

Desmoid tumors account for approximately 0.3% of all solid tumors. The chest wall represents 8-10% of all cases. Desmoids have a tendency to local invasion and frequent recurrence, even after complete surgical resection[6].

The etiology of DT is unknown, but their association with female gender, a history of abdominal surgery, trauma, and estrogen therapy is well known[7]. Sporadic tumor may occur at sites of previous trauma, scars or irradiation[8]. Our case received contraceptive pills previously, but no history of trauma or irradiation was present.

The fibromatosis was found to be involving the chest wall musculature and causing persistent and worsening pain[10]. The presentation of our case was painless mass , so the tumor had reached large size before she searched for medical advice.

A tissue diagnosis was necessary because radiological inter-pretation was not entirely consistent with desmoid-type fibromatosis[11]**.** Preoperatively, we taken incisional biopsy to reach accurate diagnosis and well planned surgical resection.

Chest desmoids represent a difficult therapeutic challenge. Radical surgery is considered to be the primary management protocol[12]. We excised the involve rib with healthy rib above and below to reach safety margin.

Tendency of desmoids to infiltrate the chest wall, the shoulder girdle, lung parenchyma, brachial plexus and vital components of the mediastinum provides a difficult surgical challenge in the efforts of achieving microscopically negative margins[13]. Preoperative chest CT revealed chest wall mass without intrathoracic invasion.

The role of adjuvant radiation therapy is controversial[14]**.** Adjuvant radiotherapy may delay the recurrence of the tumor, although it seems to have no effect on the ultimate relapse rate[15]. Our case refused to take radiotherapy postoperative.

REFERENCES:

1- Koshariya M, Shukla S, Khan Z, Vikas V, Pratap Singh A, Baghel P, Pendro V, Kirti Jain V, Jagdish Jai S, Kumar S, Songra MC. Giant desmoid tumor of the anterior abdominal wall in a young female: a case report. Case Rep Surg. 2013.

2- Maher J, Smith DA, Parker WL. Desmoid Tumor of the Hand: A Case Report. Ann Plast Surg. 2013

3- Mori T, Yamada T, Ohba Y, Yoshimoto K, Ikeda K, Shiraishi K, Suzuki M. A Case of Desmoid-Type Fibromatosis Arising after Thoracotomy for Lung Cancer with a Review of the English and Japanese Literature. Ann Thorac Cardiovasc Surg. 2013.

4- Mohammed B , Alex A, Marc R, and Françoise P. Cardiac failure due to a giant desmoid tumor of the posterior mediastinum. Eur J Cardiothorac Surg. 2013.

5- Sun J, Sang H , Hwa K , Jai S , and Eun H. Treatment of a Recurrent Chest Wall Desmoid Tumor Using a CT-Guided Steroid Injection. Korean J Radiol. 2012; 3: 342–344.

6- Fernando C, Daniel R, Angelo F, Wanderley M, Paulo M, and Fabio B. Desmoid tumors of the chest wall: surgical challenges and possible risk factors. Clinics . 2011; 66: 705–708.

7- Gunji S, Kawada K, Kawada M, Hasegawa S, Sakai Y. Successful outcome after laparoscopic surgery for sporadic colonic desmoid tumor with

β-catenin mutation: a case report. J Med Case Rep. 2013.

8- Bölke E, Krasniqi H, Lammering G, Engers R, Matuschek C, Gripp S, Gerber P, Fischer G, Peiper M, Shaikh S, Budach W, and Orth K. Chest wall and intrathoracic desmoid tumors: surgical experience and review of the literature. Eur J Med Res. 2009; 14: 240–243.

9- Ferenc T, Sygut J, Kopczyński J, Mayer M, Latos-Bieleńska A, Dziki A, Kulig A. Aggressive fibromatosis (desmoid tumors): definition, occurrence, pathology, diagnostic problems, clinical behavior, genetic background. Pol J Pathol. 2006;57(1):5-15.

10- Stephen P, William L, Dimitrios G, Abbas E, and Brentley A. Management of a patient with multiple recurrences of fibromatosis (desmoid tumor) of the breast involving the chest wall musculature. World J Surg Oncol. 2006; 4: 32.

11- Krishna S, Suzuki R, Bhutani M. A first report of endoscopic ultrasound-guided biopsy in the diagnosis of desmoid-type fibromatosis. Endoscopy 2011; 43: 417- 418.

12-Zoltán M, László T, Zoltán S, Ferenc R,Walter K, Pál V, István K,and Miklós K. Sporadic desmoid tumors of the chest: long-term follow-up of 28 multimodally treated patients. Euro J Cardiothorac Surg. 2011;40: 1170- 1176.

13- Mátrai Z, Tóth L, Szentirmay Z, Papp J, Antal I, Vadász P, Bartal A, Kásler M. Surgical challenges of chest wall and intra-thoracic desmoid tumors. Orv Hetil. 2011;152:3-13.

14- Hentati D, Kochbati L, Belaid A, Ben Hassouna J, Maalej M. Radiation therapy in extra abdominal desmoid tumors. Tunis Med. 2011; 89:350-4.

15- Shin S, Ko K, Cho S, Choi Y, Seo S. Surgical Outcome of Desmoid Tumors: Adjuvant Radiotherapy Delayed the Recurrence, But Did Not Affect Long-Term Outcomes. J Surg Oncol. 2013.