Case Report

Abscess or Mass A Dilemma of Ant Chest Wall Swelling

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ABSTRACT

Chest wall mass can be caused by multitude of causes. It can either be arising from chest wall itself or can be extension from underlying. Intrathoracic pathology of common causes reports are neoplastic or infectie origin. Chondrosarcoma lymphoma are most common neoplastic causes & pyogenic abscess, tuberculosis abscess are common infective causes. Herewith we present a case of chest wall mass secondary to squamous cell carcinoma of lung.

Introduction :

Chest wall mass with underlying lung involvement is a rare entity, often posing diagnostic challenges, as it has to be differentiated from numerous other, but equally less common conditions. Chest wall involvement occurs in nearly 5% of all primary lung malignancies[1]. Chest wall mass with underlying lung involvement is a rare presentation[2]. At times tuberculosis can also present as chest wall swelling[3]. A combination of CT and / or MRI signs along with corroborative clinical symptoms and signs provides a high specificity and sensitivity in differentiation and accurate diagnosis of such lesions.

Case Report :

A 50 years old male chronic bidi smoker labourer came with complaints of gradually increasing swelling over chest wall, fever & weight loss since last 4 months. Streaky Hemoptysis since 2 months. He had no H/o change in voice, PTB or chest trauma.

On general examination patient was febrile, PR-100/min, BP-110/70 mmHg, SPO2-97 %. On RS examination breath sounds were decreased on right side as a whole except in right infraclavicular area. Local examination revealed approx 5 x 5 cm swelling over mid sternal area. Skin over the swelling was non ulcerated, warm on touch and reddish s/o chest wall abcess. Dilated veins were present over the chest. However Complete blood counts were normal. Sample specimens were negative for malignant cells and acid-fast bacilli. X Ray chest PA view revealed homogenous opacity in right midzone & lower zone. USG thorax revealed heterogeneously hyperechoic lesion in midzone of right lung, while USG abdomen was within normal limit. FNAC of chest wall swelling revealed frank pus smear showed only inflammatory cells and negative for AFB and gram stain. No organism was grown on culture and CBNAAT was also negative for MTB.

USG guided FNAC tried again was inconclusive, So USG guided FNAC from deeper site was done and it revealed metastatis of squamous cell carcinoma. CECT chest was suggestive of malignant anterior Mediastinal mass causing partial destruction of sternum, extending upto ant chest wall.

Discussion :

This case highlights is two important things

1) all abscesses are not pyogenic or tubercular
2) forabscesses presenting at rare sites with no other signs of infection and with other symptoms like chest pain, hemoptysis thorough evaluation is mandatory as if such abscesses are treated with incision and drainage may complicate case and even may prove fatal due to heavy bleeding from underlying mass.

Fig. 1 : **swelling on sternal area**

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Fig. 2 : **CXR PA VIEW s/ohomogenous opacity in rt mid and lower zone**

Fig. 3 : **Rt lateral View Ant Mediastinal opacity**

Fig. 4

Fig. 5

Fig. 6

Fig. 7

Fig. 4-7 : **Showing ill defining heterogeneously enhancing mass with internal hypodense area of necrosis extending upto manubrium sternum**

Tumors involving both the chest wall and the thoracic cage are rare. Such swellings in the chest wall may be an extension of an intrathoracic pathology, which protrudes out by contiguous spread by abutting the muscle and facial planes, or in some by breaching the overlying structures. Conversely it could result from huge tumors arising from the chest wall extending internally into the lungs and mediastinum. Chest wall involvement can occur in 1.5% of patients with lymphoma and upto 5% of cases of nonsmall cell lung cancer[4] .The most common clinical symptom at presentation is chest pain (>60%), which is highly specific of chest wall infiltration (>90%). Dyspnoea and hemoptysis are also described, especially in case of large lesions[1].Tumors involving chest wall can be benign (Osteochondroma, Fibrous dysplasia, and Chondroma), Malignant (Chondrosarcoma, Osteosarcoma, Plasmacytoma), infectious (Tubercular cold abscess, bone TB, Primary Soft Tissue Infections). Chest wall infection accounts for ~10% of extra-pulmonary TB. It can cause abscesses involving the ribs, costochondral junctions, costovertebral joints, vertebrae, and have strong predilection for the margins of the sternum. Sarcomas that arise from the chest wall with a propensity for intrathoracic extension include Ewing's sarcoma, neuroectodermaltumour, chondrosarcoma, osteogenic sarcoma, fibrosarcoma and synovial sarcoma[5]. Chest wall infections are uncommon but potentially life-threatening due to their negative impact on respiratory mechanics, and potential for spread to the pleural space and mediastinum. Extrapulmonary tuberculosis is present in about 15% of all tuberculosis cases, with bone and joint involvement accounting for less than 2%[6]. Tubercular costochondritis usually presents with insidious onset, vague indolent symptoms with non- specific pain and swelling, resulting in delay in the diagnosis. The diagnosis of rib cartilage tuberculosis is crucial in order to differentiate it from a benign or malignant bone tumor, or other kinds of bacterial infections[7].

Lung cancer is the leading cause of cancer-related deaths[8]. Approximately 50% of cases are metastatic at the time of diagnosis, and 60% of patients have microscopic or clinically evident metastasis at the time of primary tumor treatment. Lung cancer can metastasize to any organ. Major sites of metastases include the liver (33-40%), adrenal glands (18-38%), brain (15-43%), bone (19-33%), kidney (16-23%) and abdominal lymph nodes (29%)[8]. A prospective study by Salvatierra et al. found that patients with adenocarcinoma or large-cell carcinoma were at a significantly higher risk for extrathoracic metastases compared with patients with squamous cell carcinoma[9]. Generally as a rule, reliable indicators of chestwall invasion include an obtuse angle with more than 3 centimeters contact with pleural surface, associated pleural thickening, bone destruction, loss of definition ofextra-pleural fat plane and / or discrete extra-pleural mass[10]. These CT findings result in a sensitivity of 87% and specificity of 59% in diagnosing chest wall invasion. In comparison, the clinical symptom of

focal chest pain, which is not as sensitive (67%) as CT is more specific (94%) for parietal pleural and chest wall invasion[11]. En bloc resection of the chest wall and lung is the procedure of choice to obtain complete resection in lung carcinoma invading the chest wall. Survival is highly dependent on the completeness of resection, nodal involvement, and depth of chest wall invasion[12].

Conclusion :

Patients presenting with a chest swelling should be evaluated for a possible intrathoracic origin or extension of the tumour as well as specially in endemic countries like India one should always look for tuberculosis might present as Tubercular cold abscess.

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