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RESEARCH ARTICLE

SURGICAL MANAGEMENT OF HUGE SOLITARY FIBROUS TUMOUR IN THE CHEST CAVITY

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Abstract

Solitary Fibrous tumour is rare mesenchymal tumour that account for < 2% of soft tissue masses collectively. Most common origin is from the pleura. [(1)] The tumour usually grows toward the pleural cavity and characterized by being slowly growing. We report here a relatively rare case of a 35-year-old female patient with minimal symptoms of shortness of breath. The patient underwent resection of tumour that considered being SFT.

Introduction:-

Solitary Fibrous tumour is a rare mesenchymal tumour that account for < 2% of soft tissue masses collectively. Most common origin is from the pleura. [(1)]Thetumour usually grows toward the pleural cavity and is characterized by being slowgrowing tumour with potential to reach a huge size. The disease affects male and female as 1:1 ratio, with adult peak of incidence around 40-70 years old. Most SFTs are accidental findings on the chest radiograph. The designation is used for lesions that show a proliferation of spindle-shaped cells in interlacing or storiform fascicles. The tumour is characterized by the differentiations of pluri-potential sub-mesothelial cells; this tumour is of unknown aetiology. It was described for the first time described in 1931 by Klemperer and Robin.[(2)]

Case presentation:
A 35 years old British lady. She is non-smoker with minimal alcohol consumption.

She gives no history of asbestos or silica exposure, presented with slowly progressive shortness of breath, on investigation the chest radiograph was advised and found to have opacity on right side of the chest. Subsequently, a CT chest was advised (image1) and found to have a large right sided intrapleuralmass. The CT guided biopsy shows unclear results. During the patient examination;finger clubbing (image 2) confirmed the extra pulmonary signs of STF.

On induction and positioning of the patient to the left lateral decubitus position, face and the neck engorgement was noted which was dealt with by slight tuning of the position of the patient.

During surgery the tumour found to be extremely vascular, occupying the whole chest cavity with the heart and the lung were severely compressed. The tumour was carefully dissected off by using finger and Ligasure dissection. The stump was originating from the diaphragm. The tumour was delivered in to the thoracotomy wound and the stump with a part of the diaphragm was divided by using a 35mm Covidien Signia vascular stapler to attain a clear margin.

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The patient recovered well but required extensive chest physiotherapy for the satisfactory expansion of the lung.
Histopathology result for the patient came back as solitary fibrous tumour measures 23.1x21x11.5 cm and weight of 3640 gram.

Discussion:-

Solitary fibrous tumoursof the pleura are rare tumours, with less than 1000 cases described in the literature. These tumours account for < 5% of all pleural tumours [1]. SFT of the pleura occurs in adults mainly. With equal sex distribution and affect mainly people in their 40 – 70 but these tumours can happen at any age. The clinical features depend on many variables which include size, sites and malignant potential of the tumour [3]. The aetiology is unknown and asbestos or silica exposure is not correlated with the pathogenesis.

Solitary fibrous tumour is usually presents as a solitary, localised mass that has a smooth surface, and glistening capsule which is attached to the pleura by a richly vascularised pedicle. Some 60 - 80% of these tumours originate from the visceral pleura [4], often in the inferior hemi-thorax, with a predominance of pedunculated tumours [5]. SFTs which are larger than 10 cm in diameter are usually malignant. In this case, the SFT, showed a solid nodule of 23 cm in diameter that was wholly enhanced on contrast-enhanced CT, and no tumours other than this tumour were detected. They are firm with white-to-grey, whorled cut surfaces [5].

Histologically, SFT is characterised by a multiplicity of growth patterns. The range and spectrum of histological patterns of SFT of the pleura was clearly illustrated by Moran et al. (6).

Conclusion:-

We discussed here a rare case of huge solitary fibrous tumour underwent open surgical excision. Long term follow up is recommended for this group of patient because of potential recurrence.

Declaration of competing interest
No conflict of interest declared by all author.

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Ethical approval
The study is exempt from the ethical approval in our centre.

Consent:
Written informed consent obtained from the patient for publication of this case report and accompanying images. The consent is available for review by the editor in chief of this journal on request.

Author Contribution:
Youssef Abouelela: study concept or design, data collection, analysis or interpretation, writing the paper, first author and approval of the final copy.

Tarek Minhas: study concept or design, data collection, analysis or interpretation, writing the paper.

Gehad Mahmoud: study concept or design, data collection, analysis or interpretation, writing the paper.

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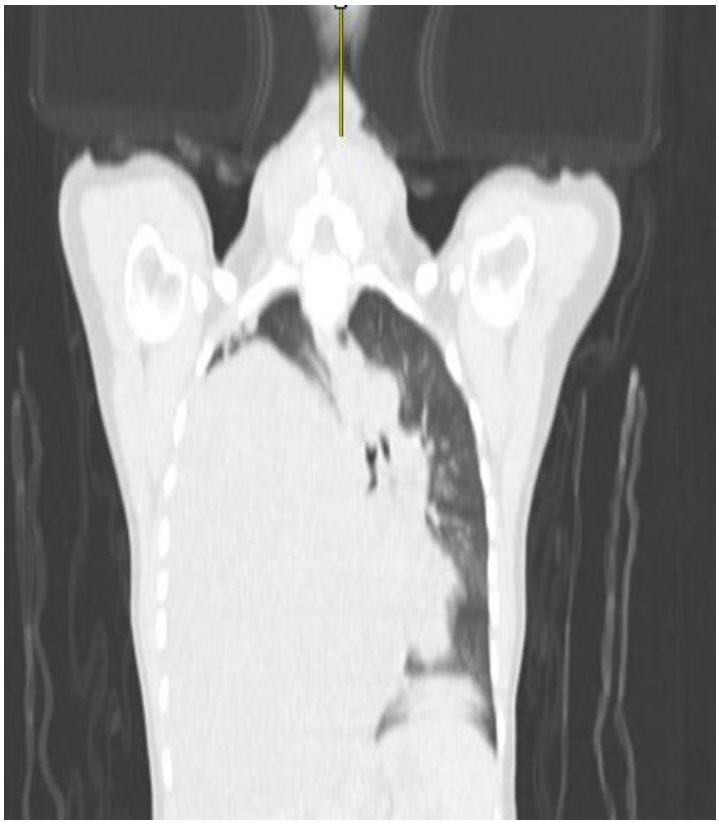

Figure (1):- Chest CT showing right lung collapse by the tumour.

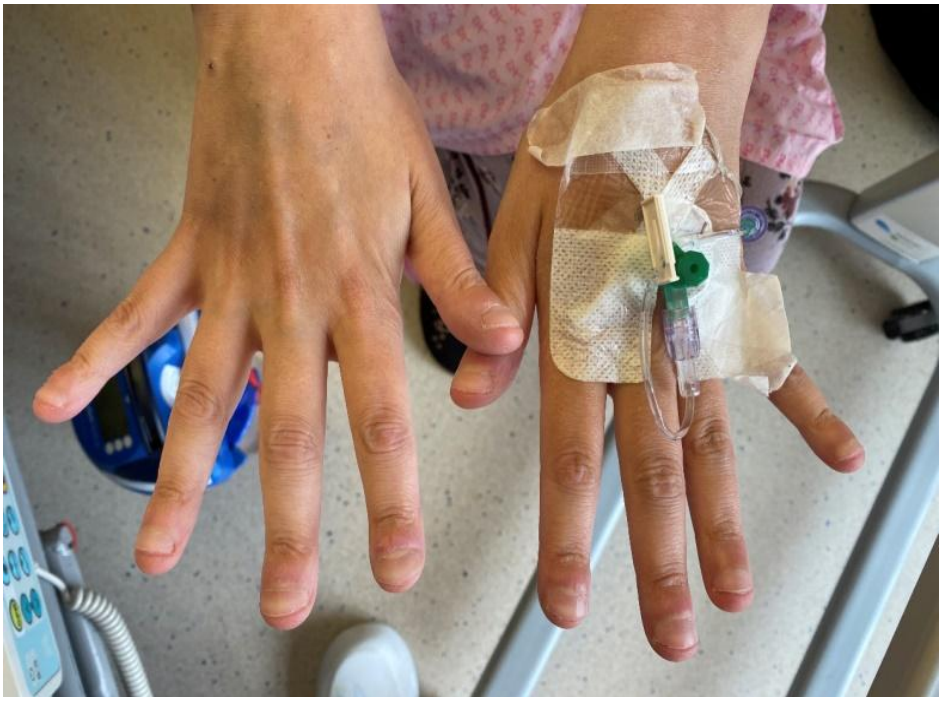

Figure (2):- Hand clubbing suggesting slowgrowth of the tumour.

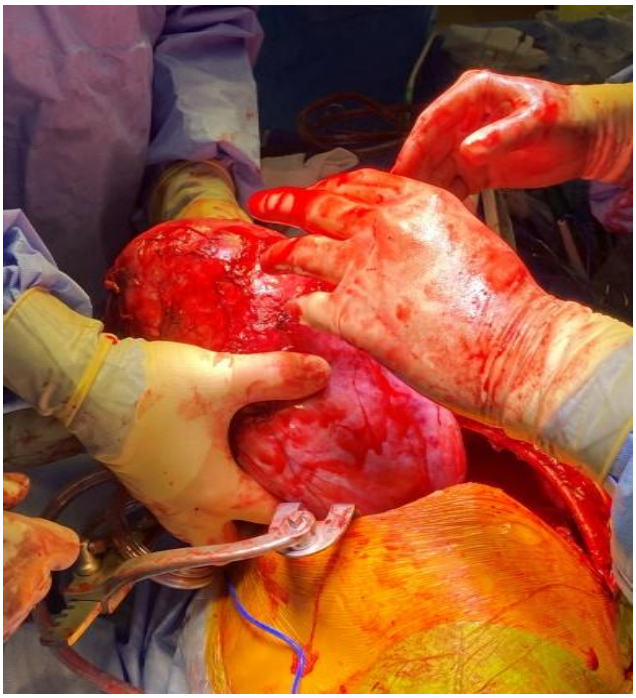

Figure (3) the tumour delivery.

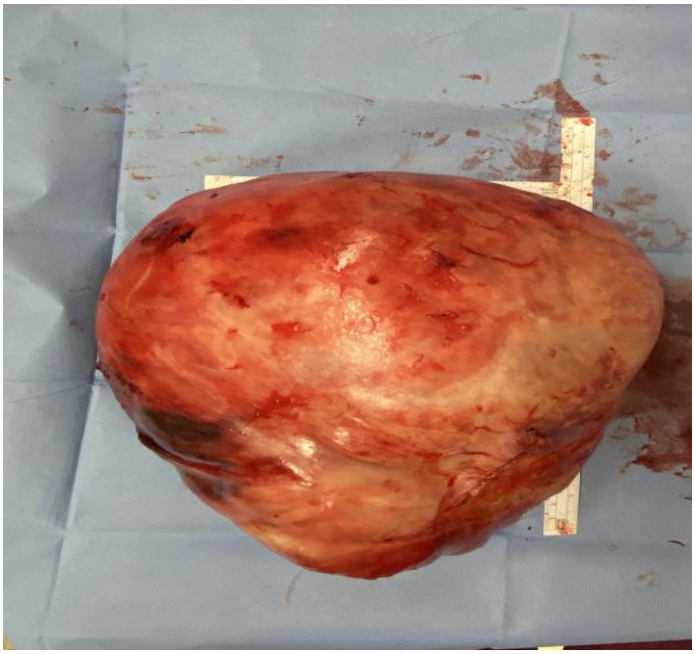

Figure (4)tumour dimensions 23.1 cm by 21 cm.

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