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Totally Cystic Schwannoma in the posterior mediastinum on right side- A rare presentation

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ABSTRACT

A 54 year old female presented with a short history of dyspnoea on exertion and pain right hypochondrium, radiating to back. X-Ray chest showed a well-defined opaque mass in the posterior mediastinum. A computed Tomography (C T) scan chest done revealed a thick walled cystic lesion in the posterior mediastinum compressing the right lower lobe bronchus along with minimal pleural effusion on same side. Ultrasound guided aspiration was done and clear watery fluid aspirated. Standard postero-lateral thoracotomy was under taken and the whole cystic mass was excised. Postoperative period was uneventful. Histopathological examination of the cyst wall revealed it to be a cystic schwannoma.

Keywords: Cystic mass, Posterior mediastinum, Thorax, Thoracotomy, Schwannoma.

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INTRODUCTION

Schwannomas also known as neurilemmomas are benign, encapsulated,slow growing neurogenic tumours of Schwann cells that form the nerve sheath [1]. In the thorax they may arise from sheath of an intercostal nerve. Adult neurogenic tumour account for 20% mediastinum. [2,3of mediastinal tumours, mostly located in posterior]

Schwannomas are usually solid tumours; although cystic changes have been reported in some case [2]. Total cystic schwannomas are very rare. Only Ten cases of predominant cystic schwannomas have been reported in the literature [2]. These tumours may resemble other cystic masses of the mediastinum [4], which are both congenital and acquired [4]. Most mediastinal schwannomas are asymptomatic [3] and are discovered on routine investigations [1,4]. Men and women are equally affected in their 3rd and 5th decade [5].

Although posterior mediastinal schwannomas are common [3] totally cystic schwannomas in this region are very rare and hence the present case is being reported.

CASE PRESENTATION

A 54-year-old female presented with history of breathlessness and pain right hypochondrium, radiating to back for the last one month. There was history of dry cough which later became productive with white mucoid sputum. Patient also had mild to moderate fever (100-102˚F) off and on that subsided with medicine. There was also history of dyspepsia after meals. Patient was admitted and further investigated. Chest X-Ray revealed right side well defined homogenous opaque mass.

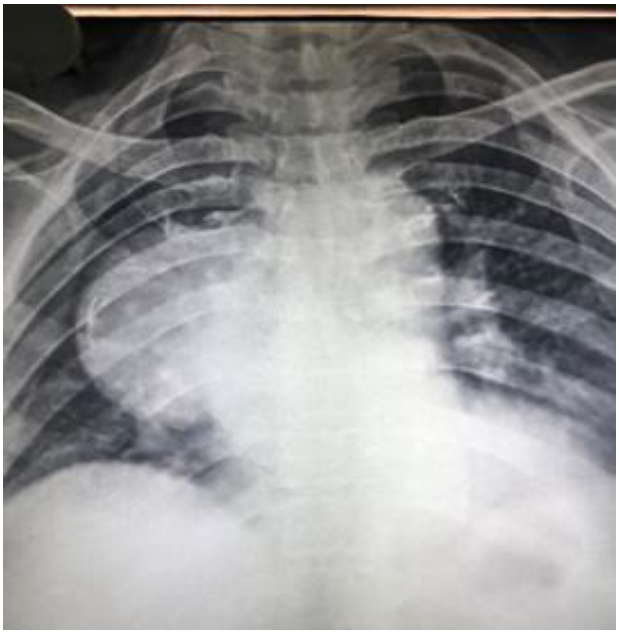

Fig.1 x-ray chest of the patient showing rounded opaque mass in the chest on right side

A subsequent computed tomography [CT] Scan of the chest revealed a large 6.7cmX6.1 cmX5.6cm cystic lesion in the posterior mediastinum with calcification in the cyst wall. [fig 2]

It showed that the mass was reaching the right main pulmonary artery anteriorly with intact fat planes and causing mild compression and luminal narrowing of the right lower lobe bronchus. Postero-medially it was seen reaching the spine with intact fat planes. No bony erosion or spinal extension was seen. Mild pleural effusion was seen with basal atelectasis. [fig 2.]

Patient's ultrasound abdomen was also done which revealed cholelithiasis. Prior to surgery ultrasound guided aspiration of the cystic mass was done.The aspirate was pale,clear and

watery. Cytology reported numerous neutrophils, macrophages, histocytes and a few lymphocytes. No malignant cells detected. Patient was prepared for surgery. Routine blood investigations were within normal limits. Standard Right Posterolateral thoracotomy undertaken.

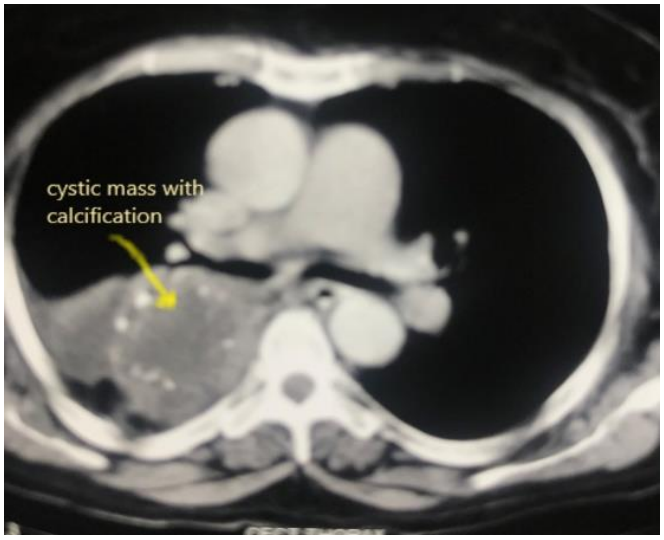

Fig 2. CT scan chest of the patient showing a cystic mass with calcification of its wall and pleural effusion.

Operative finding-A globular mass was adherent to the posterior surface of the upper and lower lobe of right lung in the paravertebral region. [Fig 3]

The cyst was aspirated and its wall excised, leaving a small portion which was adher-ent to the under lying azygous vein. The secretory surface of this was cauterized.

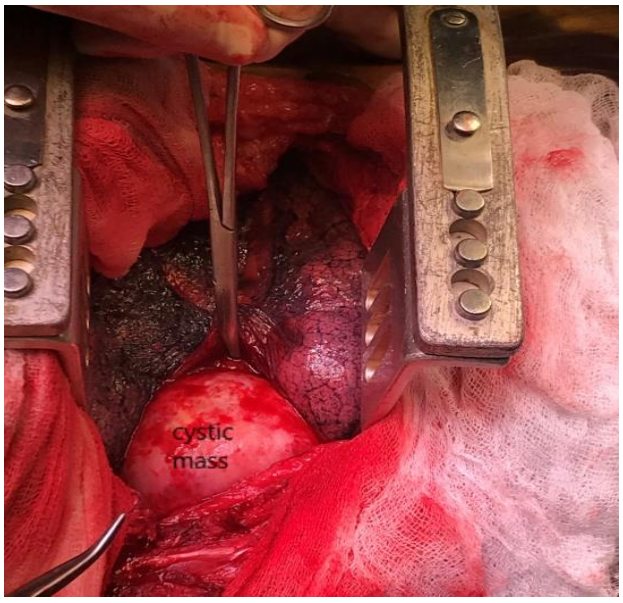

Fig 3. Globular cystic mass adherent to lung.

DISCUSSION

Posterior mediastinal tumours are mostly benign and asymptomatic [1] and are usually diagnosed as an incidental finding on chest radiograph [1,3]. Neurogenic tumours are the most common type of posterior mediastinal

tumour accounting for 75% of the posterior mediastinal tumours, out of them 75-80% schwannomas [1]. They may arise from of spinal nerve, thoracic nerves, paravertebral sympathetic, vagus or phrenic nerves [1,].

Schwannomas are benign slow growing encapsulated solid mass [3,6] and may rarely show cystic degeneration [2]. Cystic changes in schwannomas have been attributed to degradation of Antoni B portion of a neurinoma or ischemic necrosis caused by tumour growth resulting in a cystic formation[7]. In our case also the mass was encapsulated and total cystic.

Most of the schwannomas are usually asymptomatic and are found incidentally [1,2,3]. If symptoms do occur, they are usually because of their compressive effect on adjacent structures such as airways, esophagus, heart and great vessels [2,3,5]. The symptoms include dysphagia, stridor, SVC syndrome and features of Horner's syndrome [1]. The patients present late, when the tumour has grown to a sufficiently large size to cause compression of adjacent structures [1].

In our patient also, the only symptom she had was dyspnea and cough. The mass was discovered incidentally on X-ray chest. The patient also had pain in the right hypochondrium radiating to back which attributed to be due to associated cholecystitis with cholelithiasis.

Pleural effusion associated with schwannomas is reactionary due to the presence of tumour [2]. In our case the schwannoma was also associated with mild pleural effusion on right side.

Another unusual noteworthy finding was total cystic nature of the schwannoma. Most of the schwannomas are solid and may have cystic components, however total cystic schwannoma is very rare [2,5]. As in our case, it was found to be totally cystic mass

Imaging modalities like X-ray chest,MRI,CT Scan are the investigations of choice. Chest X-Ray (PA and Lateral view) would typically show a smooth rounded mass located in paravertebral sulcus which may be calcified or show bony erosions in long standing schwannomas [1]. CT Scan chest typically shows homogenous soft tumours with clear presence of fat plane with contrast examination, these masses are typically heterogeneous due to cystic degeneration [1,7].In our case CT done reported the mass to be a thick walled cystic lesion of size 6.7cmX6.1cmX5.6cm in the posterior mediastinum with calcification in cyst wall and mild pleural effusion on same side [Fig.2].MRI imaging has many advantages over the other modalities for detecting and identifying cystic,or fluid filled masses[7].However,histopathological examination of tissue my bereqiured to differentiate a cystic lesion from other cyst like or low attenution lesions[7].

Treatment of benign schwannoma is surgical resection [1,5]. The conventional surgical approach is through standard poster0-lateral thoracotomy which provide excellent exposure [1,2,3]. VATS (video assisted thoracoscopy) can also be used for resection of small tumours.[1,4,6].

In our case we followed conventional standard right posterolateral approach and the mediastinal mass was found to be adherent to upper and the lower lobe posteriorly and to the inner surface of posterior chest wall. (Fig.3)

Cyst was aspirated and its wall was totally excised except a small part which was firmly adherent to inner surface of posterior chest wall and to the under lying azygous vein. It was fulgurated with cautery and hemostasis was secured. The cyst excised was sent for Histopathological examination.Biopsy report revealed it to be a benign cystic schwannoma.

CONCLUSION

Schwannomas are most common tumour, but cystic schwannomas occur rarely in the thoracic region. These may arise from the posterior mediastinum and may cause pleural effusion.

Patient may be asymptomatic or may present with respiratory distress. X-Ray chest, CT and MRI scan of the chest help identifying the mass. The treatment involves resection of mass.

Compliance with ethical standard

Ethical statement. All procedures performed in this study involving human participants were in accordance with ethical standards of the instutional and/ornational research committee and with the 1964 Helsinki declaration and its later amendments or complete ethical standards.

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Conflicts of interests. The authors declare that they have no conflict of interest.

Informed Consent. Informed consent was taken from all the participants included in study

REFERENCES

1. Uvie U Onakpoya, 1, 2 Bamidele O Adeniyi, 3 Joel O Eyekpegha, 2 and Akinwumi B Ogunrombi1, 2. Large posterior mediastinal schwannoma in a 45-year-old woman. Lung India. 2017 Jan-Feb; 34(1): 109–110.
2. Mujtaba Mubashir, 1 Abdus Salam, corresponding author2 Amyn Sonawalla, 2 Huma Fatima, 2 and Saulat H Fatimi3. Rare Presentation of a Posterior Mediastinal Cystic Schwannoma as a Large Pleural Effusion.Cures.2017 Aug;9(8).e1558
3. Wu Y1, Zhang J1, Chai Y1. Giant mediastinal schwannoma located in the lower right side of the chest. Niger J Clin Pract. 2016 Sep-Oct;19(5):678-80.
4. Jang JY, Kim JS, Choe JW, et al. A case of giant, benign schwannoma associated with total lung collapse by bloody effusionTuberc Respir Dis. 2013;75:71–74.
5. Amin R, Waibel BH. An unusual presentation of a posterior mediastinal schwannoma associated with traumatic hemothorax. Case Rep Surg. 2015;2015.
6. WEI WANG,1 MING CUI,2 HONG XI MA,3 HONG ZHANG,1 ZHEN-HUA ZHANG,1 and YOU-BIN CUI1. A large schwannoma of the middle mediastinum: A case report and review of the literature. Oncol Lett. 2016 Mar; 11(3): 1719–1721.
7. Kemal Ödev, Bilgin K. Arıbaş,1 Alaaddin Nayman, Olgun K. Arıbaş,2 Tamer Altınok,2 and Ahmet Küçükapan. Imaging of Cystic and Cyst-like Lesions of the Mediastinum with Pathologic Correlation. J Clin Imaging Sci. 2012; 2: 33.