Original Research Article

New Indian Journal of Surgery
Volume 10 Number 2, March - April 2019
DOI: https://dx.doi.org/10.21088/nijs.0976.4747.10219.18

Pleuropericardial Cyst

Balaji Dhaigude[1], Omkar Mahendra Shirke[2], S.V. Panchbhai[3], Shahaji Chavan[4]

[1]Professor & HOU , [2]Resident, [3]Professor & HOU, [4]Professor & HOD, Dept. of General Surgery, Dr. D.Y. Patil Medical College, Hospital & Research Centre, Pimpri, Pune, Dr. D.Y. Patil Vidyapeeth, Pune, Maharashtra 411018, India.

How to cite this article:
Balaji Dhaigude, Omkar Mahendra Shirke, S.V. Panchbhai et al. Pleuropericardial Cyst. New Indian J Surg. 2019;10(2):238-241.

Abstract

Introduction: Cystic lesions within the pericardial space are a rare entity and comprise 7% of the mediastinal masses and 33% of mediastinal cysts. The reported incidence of pleuropericardial cyst is 1 in 1,00,000 population and most cases are detected incidentally. Most cases are congenital and asymptomatic but life threatening complications may occur in the course of disease. *Case Report*: A 60 year old male pt. came to our hospital with chief complains of chronic cough, chest pain, dyspnoea , palpitation, a feeling of retrosternal pressure and right shoulder discomfort radiating to right arm since 2 months. Chest X-ray showed e/o isolated cystic shadow in right mediastinum. Patient was advised surgery and underwent Anterior Thoracotomy and excision of cyst. *Discussion*: Patients with pleuropericardial cysts are usually asymptomatic (up to 60-75% cases). Symptoms usually appear when the cyst compresses on a nearby structure. Common symptoms include chronic cough, chest pain, dyspnoea and a feeling of retrosternal pressure. *Conclussion*: Pleuropericardial cyst occurs rarely, is clinically silent in majority of cases but can cause life threatening complications. Therefore it is prudent to keep such anomalies in mind when evaluating patients from third and fourth decade of life either during routine health check-up or when such patients present with chest complaints.

Keywords: Pleuropericardial cyst; mediastinum; chronic cough; chest pain; dyspnoea; retrosternal pressure.

Corresponding Author: Omkar Mahendra Shirke, Resident, Dept. of General Surgery, Dr. D.Y. Patil Medical College, Hospital & Research Centre, Pimpri, Pune, Dr. D.Y Patil Vidyapeeth, Pune, Maharashtra 411018, India.

E-mail: omkar4485@gmail.com

Received on 03.01.2019, **Accepted on** 02.02.2019

Introduction

- Cystic lesions within the pericardial space are a rare entity and comprise 7% of the mediastinal masses and 33% of mediastinal cysts [1,2].
- The reported incidence of pleuropericardial cyst is 1 in 1,00,000 population and most cases are detected incidentally [3-6].
- They are usually found in third or fourth decade of life and male and the females are affected equally [5].
- Most cases are congenital and asymptomatic but life threatening complications may occur in the course of disease. They are found in the literature under various names: le kyste pleuropericardique (Jeaubert de Beaujeu, 1945; Roche, 1954), pleural cyst, pericardial cyst, pericardialcoelomic cyst (Lambert, 1940), springwater cyst (Greenfield, Steinberg, and Touroff, 1943), mesothelial cyst (Churchill and Mallory, 1937), and thin-walled cyst [7].

Case Report

- A 60 year old male pt. came to our hospital with chief complains of chronic cough, chest pain, dyspnoea, palpitation, a feeling of retrosternal pressure and right shoulder discomfort radiating to right arm since 2 months.
- There was no past history of diabetes milletus, hypertension, bronchial asthma, tuberculosis or Ischaemic heart disease.

- On examination, vitals were normal.
- All routine blood investigations were within normal limits.
- Chest X-ray showed e/o isolated cystic shadow in right mediastinum.
- HRCT Thorax (Plain) revealed a well-circumscribed thin walled cystic lesion in right anterior mediastinum extending along the right cardiac border and IVC upto the level of aortic arch measuring approximately 11.5×7.7×9.4 cms in craniocaudal (CC), anteroposterior (AP) and Transverse (Tr) dimensions respectively. It extended posteriorly upto right interlobar artery division. Anteriorly the mass was limited by the right anterior chest wall extending from the 1st anterior rib upto 6th anterior rib. Inferiorly it was limited by right hemidiaphragm.
- Impression- Likely to be 1) Pleuropericardial cyst or 2) Lymphangioma.
- Patient was advised surgery and underwent Anterior Thoracotomy and excision of cyst. 5cm wide incision was taken over Right inframammory line. Flaps were raised. Pectoralis major and pectoralis minor were retracted. Space was created through 4th Intercostal space (ICS). Large cystic cavity involving pleura and pericardium was seen. Fluid was drained and whole cyst was excised. Closure was done in layers after putting Intercostal drain (ICD). The procedure was uneventful.
- Cyst wall specimen was sent for histopathological examination for confirmation. Section showed fibrofatty tissue with thin fibro-collagen cyst wall lined focally by flattened to cuboidal epithelium. Large congested vessel also seen in adjacent fibrofatty tissue.
- Impression - Simple cyst consistent with Pleuropericardial cyst.

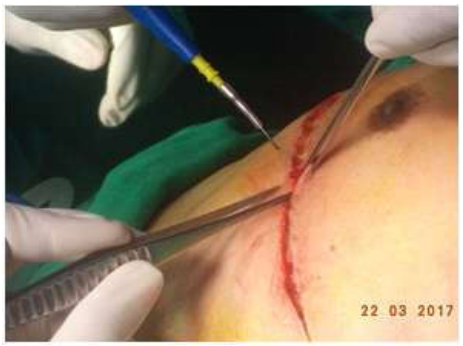

Fig. 1: 5 cm wide incison taken over Rigth inframammory line

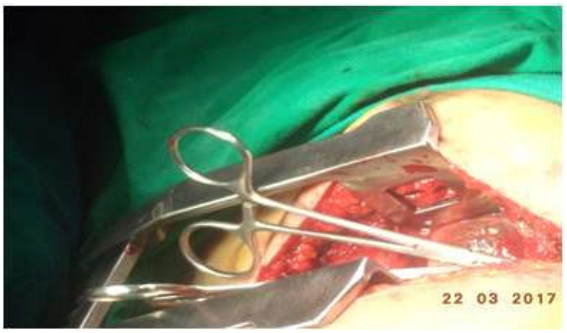

Fig. 2: Large *Pleuropericardial Cyst* involving pleura and pericardium

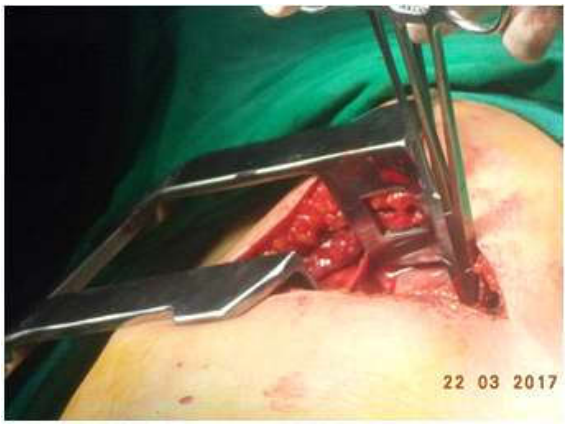

Fig. 3: Fluid drained and whole cyst was excised

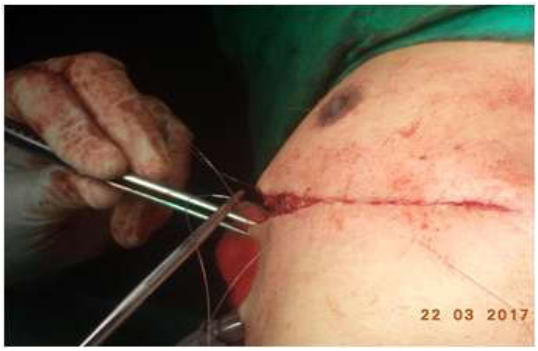

Fig. 4: Closure done in layers

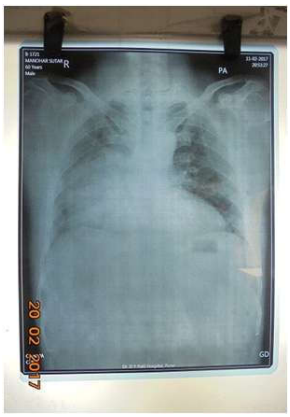

Fig. 5: Pre-op Chest X-ray showing isolated cystic shadow in Right mediastinum

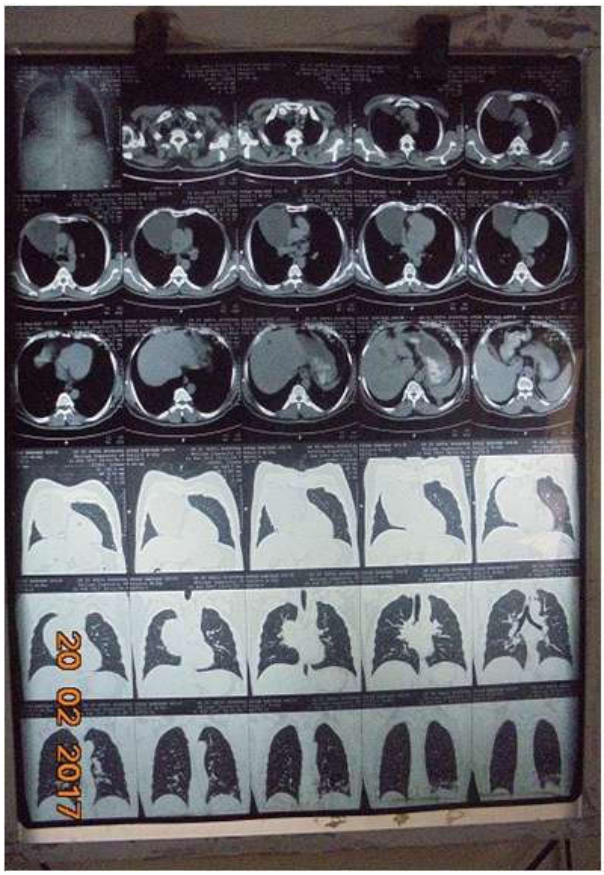

Fig. 6: HRCT Thorax(Plain) showing a well circumcised thin walled cystic lesion in Right anterior mediastinum

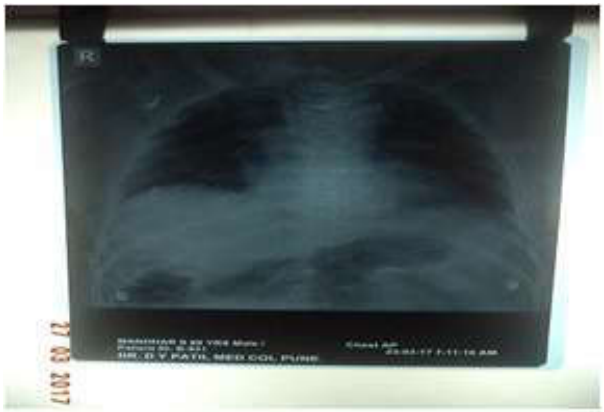

Fig. 7: Post-op Chest X-ray

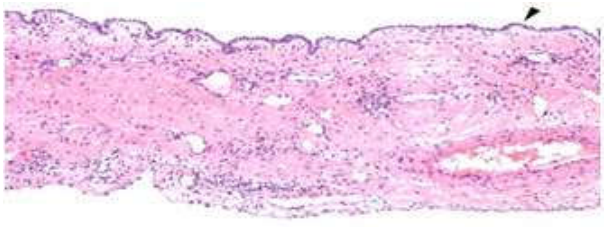

Fig. 8: HPE section showing fibrofatty tissue with thin fibrocollagen cyst wall lined focally by flattened to cuboidal epithelium

Discussion

- Patients with pleuropericardial cysts are usually asymptomatic (up to 60-75% cases). Symptoms usually appear when the cyst compresses on a nearby structure. Common symptoms include chronic cough, chest pain, dyspnoea and a feeling of retrosternal pressure.
- Pleuropericardial cysts are usually benign in nature but complications may arise eventually in the form of compression, inflammation, haemorrhage or rupture.
- Pleuropericardial cyst may appear as an incidental finding in chest X-ray in an asymptomatic patient.
- CT scan is the diagnostic modality of choice in all cases and diffusion weighted cardiac MRI for cases with diagnostic confusion. Echocardiography provides a narrow window and lesions at unusual locations may be missed with this technique.
- Management protocol is similar to that of mediastinal mass. Large cysts should be resected surgically.
- An algorithmic approach should be followed for management depending on size, shape and compressibility of the mass, patient symptoms, surgical fitness and patient preference.

Conclusion

- Pleuropericardial cyst occurs rarely, is clinically silent in majority of cases but can cause life threatening complications.
- Therefore it is prudent to keep such anomalies in mind when evaluating patients from third and fourth decade of life either during routine health check-up or when such patients present with chest complaints.
- A high index of suspicion and a subsequent thorough work-up is necessary to reach a diagnosis.

Funding: No funding sources.

Conflict of Interest: None declared.

Ethical Approval: Not required.

References

1. Cohen AJ, Thompson L, Edwards FH, Bellamy RF. Primary cysts and tumors of the mediastinum. Ann Thorac Surg. 1991;51:378-384.
2. Davis RD, Oldham HN, Sabiston DC. Primary cysts and neoplasms of the mediastinum: recent changes in clinical presentation, methods of diagnosis, management, and results. Ann Thorac Surg. 1987;44:229-237.
3. Unverferth DV, Wooley CF. The differential diagnosis of paracardiac lesions: pericardial cysts. Cathet Cardiovasc Diagn. 1979;5:31-40.
4. Patel J, Park C, Michaels J, Rosen S, Kort S. Pericardial cyst: case reports and a literature review. Echocardiography. 2004;21:269-272.
5. Elamin WF, Hannan K. Pericardial cyst: an unusual cause of pneumonia. Cases J. 2008;1:26.
6. Maisch B, Seferović PM, Ristić AD, Erbel R, RienmÃller R, et al. Guidelines on the diagnosis and management of pericardial diseases executive summary; The Task force on the diagnosis and management of pericardial diseases of the European society of cardiology. Eur Heart J. 2004;25:587-610.
7. DE Roover P, Maisin J, Lacquet A. Congenital pleuropericardial cysts. Thorax. 1963;18:146-50.
8. Masood AM, Ali OM, Sequeira R. A hiding in the lining: painful pericardial cyst. BMJ Case Rep. 2013.
9. Forouzandeh F, Krim SR, Bhatt R, Abboud LN, Ramchandani M, et al. Giant pericardial cyst presenting as pneumonia. Tex Heart Inst J. 2012;39: 296-297.
10. Kar SK, Ganguly T, Dasgupta CS, Goswami A. Cardiovascular and Airway Considerations in Mediastinal Mass During Thoracic Surgery. J Clin Exp Cardiolog. 2014;5:354.