Case Report

DOI: http://dx.doi.org/10.18203/2349-2902.isj20174534

Giant viable isolated hydatid cyst of lung and liver with successful surgical outcome in rural setup: a case report

Tushar Goel^{1*}, Ankit Sharma², Sankalp Dwivedi¹, Sameer Singal²

¹Department of General Surgery, Maharishi Markandeshwar Institute of Medical Sciences and Research, Mullana, Haryana, India

Received: 20 July 2017 Accepted: 18 August 2017

*Correspondence: Dr. Tushar Goel,

E-mail: drtushargoel2014@gmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Hydatid disease has been known since the time of Hippocrates. Hydatid disease is a worldwide parasitic infestation caused by *Echinococcus Granulosus* characterized by cystic lesions mostly in the liver and lungs with fewer in other parts of the body. Patient details were collected by patient's IPD file. Complete detailed history, patient vitals, haemogram, ABO, with USG abdomen thorax and CECT chest and upper abdomen was done. Post operatively the outcome was followed by USG R/v and Chest X ray. Treatment diagnosis was giant viable hydatid cyst lung and liver. Right thoracotomy with 5th rib cutting incision was given. Cyst was visualized and managed along with repair of bronchopleural fistula. Hydatid liver was operated later after 3 weeks as elective Surgery. Post-operative period was uneventful with successful outcome. The case was managed successfully by surgical intervention. Surgery remains the choice of complete evacuation of hydatid cyst. Non-complicated hydatid cysts have a good prognosis regardless of their size. Regular follow-up is usually advised to prevent recurrence and spread.

Keywords: Bronchopleural fistula, CECT chest, Echinococcus Granulosus, Thoracotomy, Viable hydatid cyst

INTRODUCTION

Hydatid disease is a worldwide parasitic infestation caused by *Echinococcus Granulosus* characterized by cystic lesions in the liver and lungs but rarely in other parts of the body.^{1,2}

Giant hydatid cysts of the lung are the cysts measuring 10 cm or more. Hydatid disease can develop in any part of body with the liver (69%) and lung (25%).^{3,4,7}

We present a case of large viable hydatid cyst of lung along with hydatid in liver in a young female with no direct invasion; successfully managed surgically with no major complication.

CASE REPORT

A 19-year-old female admitted in hospital with chief complaints of chest pain along with episodes of fever, productive cough and breathlessness. On examination patient had decreased right sided breath sound with no tenderness. Patient was admitted for evaluation and underwent baseline blood investigation along with X-ray chest, USG chest and abdomen.

Patient was under evaluation by Respiratory and Surgery Department and diagnosed a hydatid cyst in right lung along with a cyst in right lobe of liver. Patient underwent CECT chest, serological test for further evaluation and diagnosed with giant viable hydatid cyst in right lower lobe of lung with small bronchopleural fistula along with a large isolated hydatid cyst in right lobe of liver.

²Department of Respiratory medicine, Maharishi Markandeshwar Institute of Medical Sciences and Research, Mullana, Haryana, India

Albendazole was started. Patient was planned for surgery and right thoracotomy with 5th rib cutting incision was given.

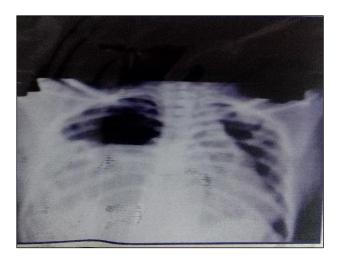


Figure 1: X-ray on presentation showing a large opacity in right hemithorax with collapsed lung.

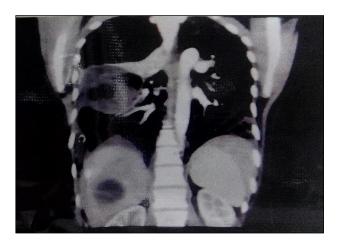


Figure 2: CT chest and upper abdomen coronal shows a large isolated hydatid cyst lung and liver.

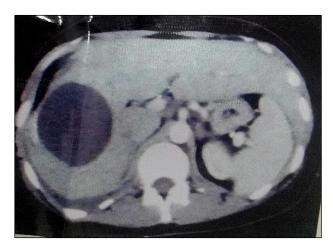


Figure 3: CT abdomen axial view shows a giant isolated hydatid cyst liver.



Figure 4: Right thoracotomy 5th rib cutting incision.



Figure 5: Thoracotomy with self-retaining retractor showing hydatid cyst.



Figure 6: Dissected; evacuated hydatid cyst with live hydatid contents.

Chest was opened in layers, pleura was thickened; opened. A large cyst was visualized along with collapse lung; cyst was carefully evacuated along with small daughter cyst and decortication was done. Diaphragm was intact with no connection with the liver Cyst. On irrigation air leak was confirmed and diagnosed as bronchopleural fistula which was repaired with 4 zero prolene. Drained fluid was sent for cytology and culture and diagnosis of hydatid was confirmed. ICD was placed.

Post OP evaluation shows great improvement in lung expansion and patient was improved. Hydatid liver was operated later after 3 weeks as elective surgery by Right Kocher's incision. Post-operative period was uneventful with successful outcome. Patient was discharged satisfactory and was followed up for 6 months.

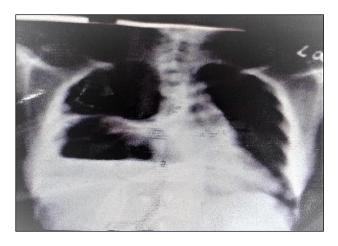


Figure 7: Immediate post of X-ray showing lung expansion.

DISCUSSION

Hydatid disease has been known since the time of Hippocrates. Since then the epidemiology and clinical features of the disease have been well described.⁴

Hydatid disease, caused by *Echinococcus granulosus*, is endemic in some countries. Liver and lung are the most common site to be infected by *E. Granulosus*. Most of them are in 7th and 8th segment of liver and lower lobe of right lung. Daughter cysts were found in many of the cases. The surgical technique varied according to the features and size of the cyst.^{5,10}

The majority of lung hydatid cysts are silent and either small or medium in size. Non-complicated hydatid cysts are usually discovered incidentally during routine chest X-rays for complaints other than chest diseases. Giant hydatid cysts and complicated cysts, on the other hand, are usually symptomatic. The common presentations are compression symptoms such as a dry cough in cases of very large cysts; a productive cough in cases associated with communication with the bronchial tree.⁵⁻⁷

Perforated cyst presents with various radiological sign, including the water lily sign, the meniscus sign, incarcerated membranes, air-fluid levels, hydropneumothorax, pneumothorax, and a simple cavity. The results of treatment of hydatid disease with mebendazole and albendazole is also well known either

alone for small cysts or along with surgical intervention depending on the size, site and viability of cyst. ^{8,9,11}

CONCLUSION

Surgery remains the choice of complete evacuation of hydatid cyst. Non-operative giant viable *Echinococcus* cyst long term supportive medication is advocated. Non-complicated Hydatid cysts have a good prognosis regardless of their size and can be safely treated by parenchyma-preserving surgery. Regular follow-up is usually advised to prevent recurrence and spread.

Funding: No funding sources Conflict of interest: None declared Ethical approval: Not required

REFERENCES

- Kavukcu S, Kilic D, Tokat AO, Kutlay H, Cangir AK, Enon S, et al. Parenchyma-preserving surgery in the management of pulmonary hydatid cysts. J Invest Surg. 2006;19(1):61-8.
- Safioleas M, Misiakos EP, Dosios T, Manti C, Lambrou P, Skalkeas G. Surgical treatment for lung hydatid disease. World J Surg. 1999;23(11):1181-5.
- Karaoglanoglu N, Kurkcuoglu IC, Gorguner M, Eroglu A, Turkyilmaz A. Giant hydatid lung cysts. Eur J Cardiothorac Surg. 2001;19(6):914-7.
- Punia RS, Kundu R, Dalal U, Handa U, Moha H. Pulmonary hydatidosis in a tertiary care hospital. Lung India. 2015;32(3):246-9.
- Robert ES, Eugene JM, William FM, Sally HE, Stacey M. Case records of the Massachusetts general hospital. Weekly clinicopathological exercises. Case 29 1999. A 34-year-old woman with one cystic lesion in each lung. N Engl J Med. 1999;341(13):974-82.
- Saidi F. Treatment of Echinococcal cysts. In mastery of surgery 3rd edition. Edited by: Nyhus LM, Baker RJ, Fisher JE. Boston, New York, Toronto, London: Little, Brown and Co; 1997:1035-52.
- 7. Beggs I. The radiology of hydatid disease. AJR Am J Roentgenol. 1985;145(3):639-48.
- Perez-Fontana V. New method of upering in the pulmonary hydatico cyst. Arch Pediatr Uruguay. 1948;19:5-36.
- 9. Aletras H, Symbas PN. Hydatid disease of the lung. In: Shields TW, ed. General thoracic surgery. 2nd ed. Philadelphia: Lea and Febiger; 1983:645-57.
- Ayusa LA, Peralta GT, Lazaro RB, Stein AJ, Sanchez JA, Aymerich DF. Surgical treatment of pulmonary hydatidosis. J Thorac Cardiovasc Surg. 1981;82:569-75.
- Braitwaite PA, Roberts MS, Allan RJ, Watson TR. Clinical pharmacokinetics of high dose mebendazole in patients treated for cystic hydatid disease. Eur J Clin Pharmacol. 1982;22:161-96.

Cite this article as: Goel T, Sharma A, Dwivedi S, Singal S. Giant viable isolated hydatid cyst of lung and liver with successful surgical outcome in rural setup: a case report. Int Surg J 2017;4:3539-41.