



## Study of Lung Hydatid Cyst: A Series of Five Cases

### KEYWORDS

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**ABSTRACT** *Aim:* A hydatid cyst is the most common lung parasitic disease. A hydatid cyst is more common in the right lung and lower lobes.

*Objective:* The aim of this study was to assess surgical treatment of pulmonary hydatid cysts and whether the location of cyst affects surgical technique approaches.

### INTRODUCTION:

Hydatid disease had been recognized since the Galen and Hipocrates, and in 1808 Rudolphi used the term hydatid cyst to describe echinococcosis in humans. A hydatid cyst is a parasitic infestation caused most commonly by echinococcal granulosus. The most common location of a hydatid cyst is liver and lungs at the second place (10-40%).<sup>[1]</sup> Generally, a pulmonary hydatid cyst is diagnosed by radiological imaging, physical examination and history findings.

The preferable treatment for pulmonary hydatid cysts is operation. Various surgical procedures are described in the literature. The surgical procedures may be conservative (cystostomy, enucleation of intact cysts, removal of the cyst after needle aspiration with or without pericystectomy, with maximal preservation of lung parenchyma) or radical (lung parenchyma resection with cystotomy and pericystectomy, wedge resection, segmentectomy and lobectomy).<sup>[2]</sup> However, the selection of surgical technique depends on the conditions throughout surgery. While hydatid disease is endemic in Iran and the highest rate is reported for Khorasan Province and few studies have evaluated the relation between location of the cysts and type of surgical technique, we aimed to perform this study to assess surgical treatment of pulmonary hydatid cysts and evaluate whether the location of a cyst affects the choice of surgical technique.

### MATERIALS AND METHOD:

This study was conducted at Dhiraj Hospital, Pipariya, Vadodara, between September 2014 and May 2015. Study comprising of 5 cases of lung hydatid cyst. All the patients presented with complains of fever, cough, and hemoptysis. HRCT scan was done which show hydatid cyst of lung. Among five patients CT scan of one of patient showed an atypical mediastinal mass, extending towards the left lower lobe of lung. All five patients, which were operated and Thoracotomy was done.

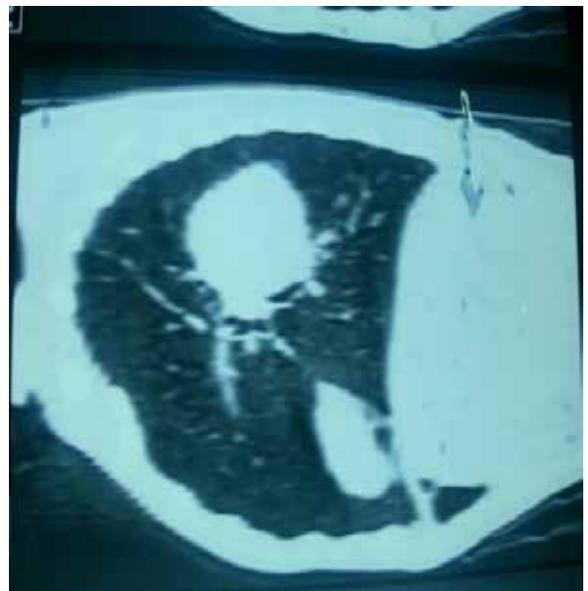


FIGURE 1: HRCT THORAX SHOWING HYDATID CYST:



FIGURE 2: HRCT THORAX SHOWING HYDATID CYST:



FIGURE 3: THORACOTOMY:



FIGURE 4: THORACOTOMY:



FIGURE 5: THORACOTOMY INFECTED HYDATID CYST:

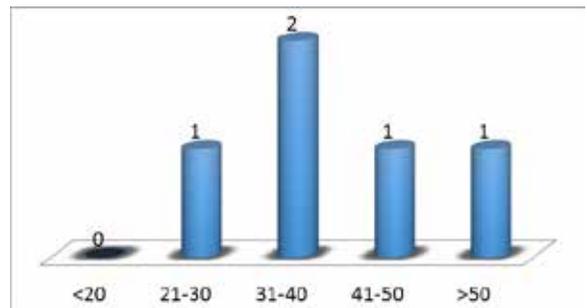


FIGURE 6: HYDATID CYST:

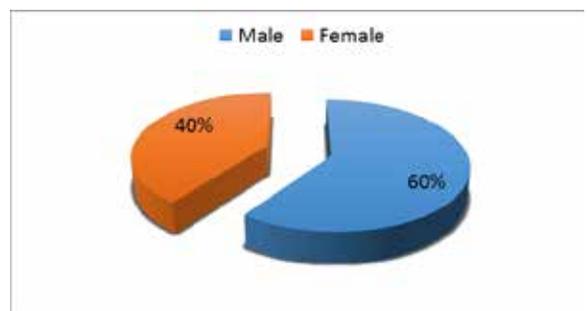
**DISCUSSION:**

A hydatid cyst is a parasitic infestation caused mostly by echinococcal granulosus. It is an important health problem in regions where people earn the living by agriculture and livestock raising, while veterinary services, public health and preventive policies are poorly offered.<sup>[1]</sup> Common complaints of patients with lung hydatid cysts are dry cough, hemoptysis and feeling pressure in the thorax. Symptoms are related to size, location and eventual rupture of the cysts. Hydatid disease when is located in lungs can reach a certain size without causing any symptom.<sup>[3]</sup> A cyst is identifiable in chest x-ray and computed tomography (CT) scanning as a round or oval homogenous opacity that can be differentiated from pulmonary parenchyma.<sup>[4]</sup> Serological investigations have a limited value in diagnosis of lung hydatid cysts.<sup>[5]</sup> Some studies reported that in patients with pulmonary hydatid disease, the lung parenchyma should be preserved as much as possible and radical procedures must be avoided.<sup>[2]</sup> Karavdic *et al.* reported that surgical treatment is related to size, localization, clinical manifestation and eventual complication of the cysts.<sup>[6]</sup>

The most common localization of a hydatid cyst is the liver (50-60%) and secondly the lungs (10-30%).<sup>[7]</sup> A hydatid cyst should be treated as soon as diagnosis is made, since it may cause serious complications by means of rupture into bronchi and pleural cavity or vital organ compression.<sup>[8]</sup> Surgical treatment is preferred in pulmonary hydatid cysts.<sup>[9]</sup> Medical treatment is considered for small cysts without complication, in patients who are high risk for surgery and those who reject the surgery.<sup>[10]</sup> The choice of surgical technique is based on the location, size and the number of cysts. Since, hydatid disease is endemic in some parts of the world including Iran, we aimed to perform this study to evaluate whether the location of cyst affects the choice of surgical technique or not.

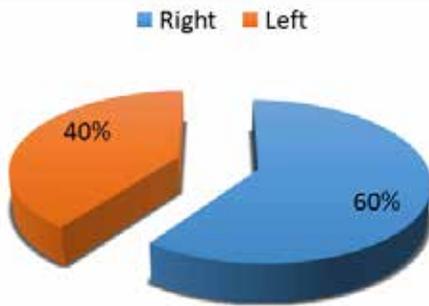


In this study, the most affected age group was 31-40 years with a mean age of 30 years and when compared with other studies, the same age group was involved.<sup>[11]</sup>



Although it may occur in any age group, it is more common in the third and fourth decades and is more prevalent in men.<sup>[12]</sup> In this study, the rate of incidence of a pulmonary hydatid cyst was 60% in male and 40% in female. In a

study by Bulent *et al.* no significant differences were found between the incidence rates by the gender.<sup>[13]</sup> However, our result about the gender-related incidence rate was similar to those reported in the study performed by Bilgin *et al.*<sup>[14]</sup> But, the study of Ghaffarifar reported that the incidence rate is more common in females.<sup>[15]</sup>



In our study, the right lower lobe was the most frequently affected area of the lung (60%) and the left lower lobe was affected as 40%. Ulku *et al.* also concluded that the right lower lobe was the most frequently attacked area of the lung.<sup>[10]</sup> The study of Sehitogullari also showed that the right lower lobe was the most affected area of the lung.<sup>[17]</sup> Their finding is similar to our study. Our cases of lung hydatid cyst presented with complains of fever, cough, and hemoptysis.

HRCT scan which is gold standard for diagnosis of Lung Pathology was done which showed hydatid cyst of lung in all our patients. Thoracotomy and excision is treatment of choice for Lung hydatid which was performed in our patients. Sometimes there are chances of hydatid cyst having fistulous connection with bronchus. Such connections should be checked for and fistula have to be repaired intraoperatively. One such patient in our study had such fistula. Intercostal drainage should be kept for post-operative drainage to prevent collection. Post-operative albendazole was given to prevent recurrence with for six months.

#### CONCLUSION:

Early diagnosis of lung hydatid has better prognosis. Surgical excision remains mainstay of treatment in lung hydatid cyst. Possibility of infected lung hydatid should be kept in mind while operating a case of lung hydatid and Case of lung tumor.

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