

# PULMONARY HYDATID INVOLVING THE WHOLE LEFT LUNG: A CASE REPORT

Abdul Baseer\*, Manzoor Ahmad\*, Fizza Iftikhar\*,  
Amer Bilal\*, M. Imran\*

\*Cardiothoracic Surgery Unit,  
Medical Teaching Institute,  
Lady Reading Hospital,  
Peshawar - Pakistan

## Address for correspondence:

**Prof. Amer Bilal,**

Cardiothoracic Surgery Unit,  
Medical Teaching Institute,  
Lady Reading Hospital,  
Peshawar - Pakistan  
E-mail: aamirct@hotmail.com

## ABSTRACT

Cystic echinococcosis is a common health problem of developing world which usually occurs in children and adolescents. Giant Hydatid cyst is a special clinical entity which needs special attention. It rarely occurs in adults. Giant Hydatid cyst is usually treated with parenchyma preserving surgery with good outcomes unless not complicated. Resection is another option in cases of destroyed parenchyma.

We are presenting a case of giant Hydatid cyst in an adult which was managed by Pneumonectomy with good outcome.

**Keywords:** Cystic echinococcosis; Giant Hydatid cyst; Parenchyma preserving surgery; Lung resection.

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## INTRODUCTION

**H** ydatid cystic disease or cystic echinococcosis, is a parasitic disease caused by *Echinococcus granulosus* which commonly involve liver and lung<sup>1,2</sup>. It usually starts during childhood or adolescence<sup>3</sup>. It is a serious problem of public health in developing world<sup>1</sup>. The giant Hydatid cysts are special clinical entity which commonly involves lungs. Elastic nature of lung parenchyma allows the cyst to grow into gigantic size<sup>4</sup>. Retrieval of giant Hydatid cyst have been reported in 15% of 122 cases and 26.7% of 60 cases in Celic et al and Kosar et al studies respectively<sup>5,6</sup>. Surgical removal of pulmonary Hydatid is main stay of treatment preserving the lung parenchyma; however if cyst cause parenchymal damage more than 50% then lung resection is required<sup>7,8</sup>.

## CASE REPORT

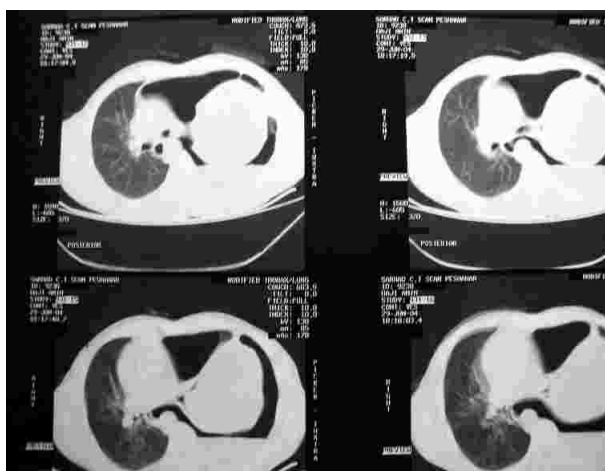
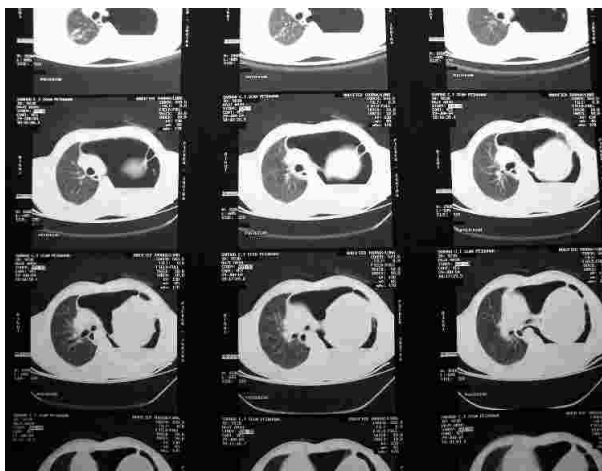
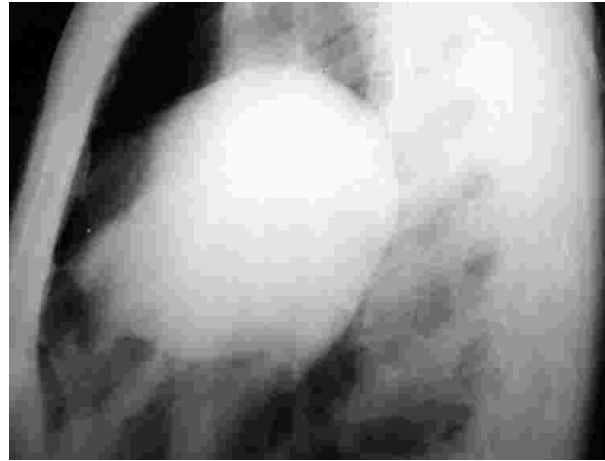
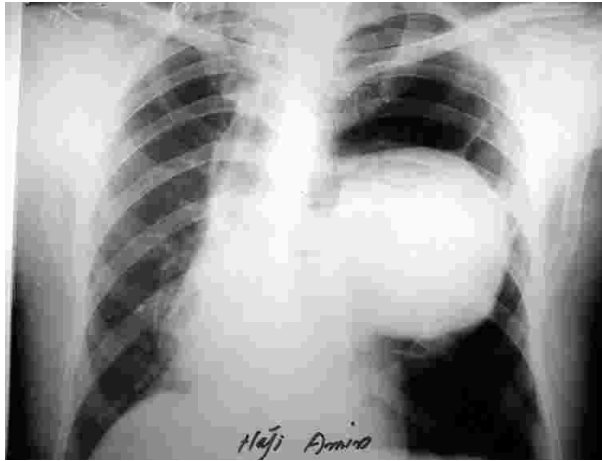
We are reporting a case of 37 years old afghani male who presented to us with complaints of cough for 7 months, one event of hemoptysis and gradual worsening dyspnea. He had taken multiple antibiotics and anti tuberculosis treatment but symptoms did not improve. He was admitted as an out door patient in cardiothoracic unit. Workup was done, chest radiograph showed a very large dense homogenous well defined rounded opacity occupying mid, upper and lower zones with no lung markings in the surrounding and shift of the mediastinum to right side,

Ultrasonography revealed a large homogenous cystic lesion with well defined edges, measuring 13 cm in the largest diameter. CT scan showed a large hyperdense, rounded opacity with air fluid level and no lung parenchyma in surroundings and shift of mediastinum to right side. Abdominal ultrasonography has not revealed any Hydatid cysts. Lab investigations included heamagglutination test along with routine investigations which was positive. Patient planned for excision of cyst after preoperative workup. Per operative findings were suggestive of a giant Hydatid cyst involving whole of the left lung with destroyed lung parenchyma. Left Pneumonectomy was done and bronchial stump was reinforced with pleura. Post operative recovery was uneventful and patient discharged home after 5 days.

## DISCUSSION

Hydatid cyst disease is a parasitic infestation caused by *Echinococcus Granulosus*. It is endemic disease in some of the developing countries. It commonly involves liver and lung but can affect any organ of the body. It affects children, adolescent and adults. Disease has male preponderance, as in our case and even reported in all cases which is explained by frequent contact of boys with dogs.<sup>9</sup>

Spectrum of symptoms varies from asymptomatic to the symptoms due to compression of adjacent structures.<sup>10</sup> Symptoms depend upon the size of cyst from small to giant one.



Giant cyst is defined as cyst having diameter more than 10 cm<sup>11</sup>. Giant Hydatid cyst is a special clinical entity. Giant Hydatid cyst rapidly grows in children and it occurs in lung due to elastic nature of lung tissue.<sup>12</sup> In our case it occurs in adult which is rare, as most cases reported among children.<sup>13</sup>

The most common symptoms of patients with giant Hydatid cysts reported were cough (68–83%), chest pain (37–55%) and dyspnea (52%), other symptoms encountered were fever (15%) and hemoptysis (26%)<sup>14</sup>. In our case, patient has complaints of cough and hemoptysis.

Giant Hydatid cyst can be easily diagnosed by radiological investigation<sup>14</sup>. Chest X Ray shows smoothly outlined, dense spherical opacity with a largest diameter more than 10 cm, occupying a part of an hemi thorax or the entire hemithorax.<sup>15</sup> and ultrasonography revealed the cystic nature of the lesion and also complementary ultrasound of the abdomen was done to rule out associated abdominal hydatids. CT scan is not mandatory but useful in size of cyst and surrounding lung parenchyma<sup>16</sup>. In our case it was a solitary large left sided intraparenchymal

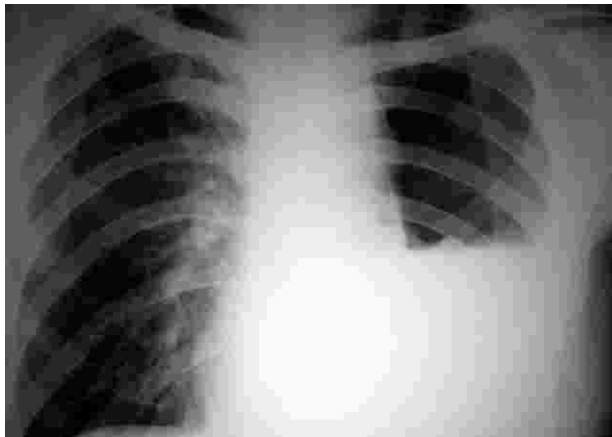
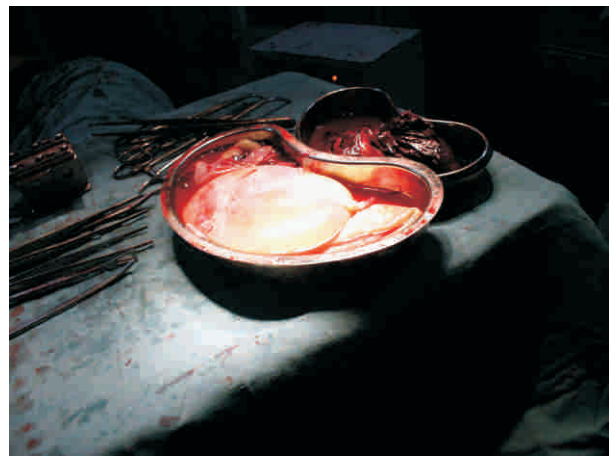
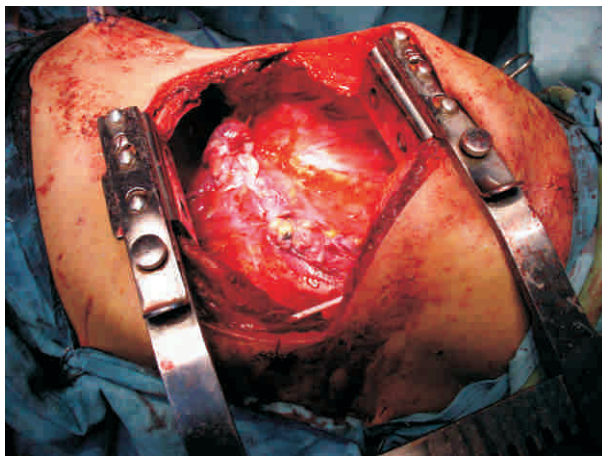
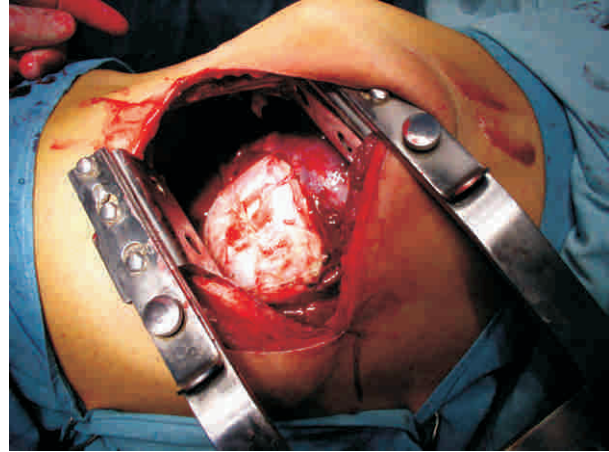
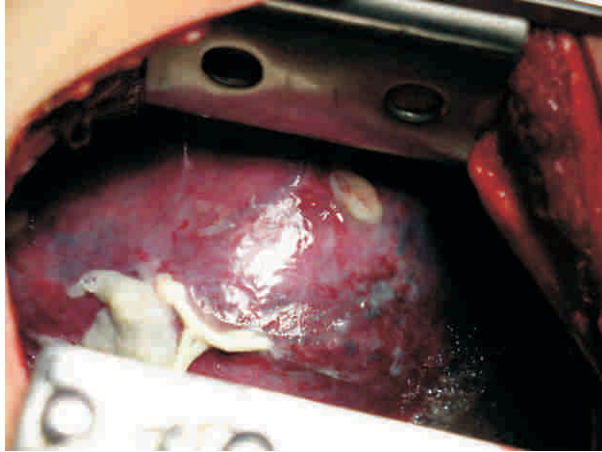
Hydatid cyst only.

Parenchyma saving surgery includes cystotomy along with capitonnage, which is the obliteration of the residual cavity, removal of the germinative membrane and suturing of bronchial openings is most appropriate option in management of giant hydatid cyst<sup>17</sup>. Resection should be avoided except in cases of giant cysts involving the entire lobe, destroyed lung parenchyma, or pulmonary abscess.<sup>18</sup> In our case we did Pneumonectomy because there were no existing normal lung parenchyma.

Rate of complication is 17% to 25% in complicated giant hydatid but prognosis is good in uncomplicated cases<sup>4</sup>. In our case the patient recovery was uneventful after surgery and follow-up showed good result.

## CONCLUSION

Giant Hydatid cyst is different entity which rarely occurs in adults. Treatment options depend upon the parenchyma status .Parenchyma preserving surgery is a better option but in case of destroyed lung parenchyma , lung resection still gives you good results.



## REFERENCES

1. Huizinga, WKJ, Grant CS, Daar AS .Hydatid disease. In: Morris PJ, Wood WC, eds.Oxford Textbook of surgery.2nd edition. New York, NY: Oxford University Press; 2000; 3298-3305.
2. R. Dogan, M. Yuksel, G. Cetin, K. Suzer, M. Alp, S. Kaya Surgical treatment of hydatid cysts of the lung: report of 1055 patients;Thorax, 44 (1989), pp.192-199.
3. Moro P, Scantz PM. Echinococcosis: a review. Int J Infect Dis. 2009; 13:125-133.
4. N. Karaoglanoglu, I.C. Kurkcuoglu, M. Gorguner, A. Eroglu, A. Turkyilmaz Giant hydatid lung cysts Eur J Cardiothoracic Surg, 19 (2001), pp. 914-917.
5. M. Celik, C. Senol, M. Keles, et al.Surgical treatment of pulmonary hydatid disease in children: report of 122 cases.J Pediatr Surg, 35 (2000), pp. 1710-1713.
6. A. Kosar, A. Orki, G. Hacıbrahimoglu, H. Kiral, B. Arman Effect of capitonnage and cystotomy on outcome of childhood pulmonary hydatid cysts J Thorac Cardiovasc Surg, 132 (2006), pp. 560-564.
7. Aletras H, Symbas PN. Hydatid disease of lung. In: Shields TW, Lo Cicero J III, Ponn RB, editors. General Thoracic Surgery, 5<sup>th</sup> ed. Philadelphia: Lippincott Williams & Wilkins; 2000.p. 1113-22.
8. Xanthakis D, Efthimiadis M, Papadakis G, Primikrios N, Chassapakis G, Roussaki A, et al. Hydatid disease of the chest: report of 91 patients surgically treated. Thorax 1072: 27 (5): 517-28.

9. S.I. Dincer, A. Demir, A. Sayar, M.Z. Gunluoglu, H. Volkankara, A. Gurses Surgical treatment of pulmonary hydatid disease: a comparaison of children and adults J Pediatr Surg, 41 (2006), pp. 1230–1236.
10. S. Topcu, I.C. Kurul, T. Altinok, U. Yazici, A. Demir Giant hydatid cysts of lung and liver ,Ann Thorac Surg, 75 (2003), pp. 292–294
11. S. Halezeroglu, M. Celik, A. Uysal, C. Senol, M. Keles, B. Arman Giant hydatid cysts of the lung J Thorac Cardiovasc Surg, 113 (1997), pp. 712–717.
12. M. Celik, C. Senol, M. Keles, et al. Surgical treatment of pulmonary hydatid disease in children: report of 122 cases, J Pediatr Surg, 35 (2000), pp. 1710–1713.
13. W. Rebhandl, J. Turnbull, F.S. Felberbauer Pulmonary echinococcosis (hydatidosis) in children: results of surgical treatment Pediatr Pulmonol, 27 (1999), pp. 336–340.
14. M. Arroud, A. Afifi, K. El Ghazi, C.H. Nejari, Y. Bouabdallah Lung hydatid cysts in children: comparison study between giant and non-giant cysts Pediatr Surg Int, 25 (2009), pp. 37–40.
15. Beggs; The radiology of hydatid disease, AJR, 145 (3) (1985), pp. 639–649.
16. C.Z. Erdem, L.O. Erdem Radiological characteristics of pulmonary hydatid disease in children, less common radiological appearances Eur J Radiol, 45 (2003), pp. 123–128.
17. C. Ozcelik, I. Inci, M. Toprak, N. Eren, G. Ozgen, T. Yasar Surgical treatment of pulmonary hydatidosis in children: experience in 92 patients J Pediatr Surg, 29 (3) (1994), pp. 392–395.
18. A. Turna, M.A. Yilmaz, G. Hacıbrahimoglu, C.A. Kutlu, M.A. Bedirhan Surgical treatment of pulmonary hydatid cysts: is capitonnage necessary? Ann Thorac Surg, 74 (2002), pp. 191–195.