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Bilateral Pulmonary Hydatid Cyst One Stage Bilateral Thoracotomy and Excision of Cysts

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A seven years old boy with bilateral huge hydatid cysts of lung was operated with bilateral anterolateral thoracotomy in one stage and both cysts were removed in one sitting. There was no intraoperative and postoperative complications. Therefore, bilateral thoracotomy for removal of bilateral hydatid cyst may be safe procedure and it also decreases cost and duration of hospital stay of the patient.

INTRODUCTION

Hydatid disease of lung is second most common site after liver. Thirty percent of hydatid cyst occurs primarily in lung. Dog is primary host and sheep and cattle are intermediate host. Human being is accident host and infected by ingesting infected ova contaminated with dog's faces. Hydatid cyst of lung is asymptomatic in early stage. Later on symptoms are usually due to compression effect on remaining lung. Usually patient presents with recurrent chest infection, cough and haemoptysis, if cyst ruptured. Whitish thin solid particles (parts of hydatid cyst capsule) and sand like particles (scolexes) are expectorated and there will be symptoms due to secondary infection. In 20% of cases of hydatid cyst of lung, it is multiple. According to some authors, hydatids are multiple. According to some authors, hydatid cysts of lung can be diagnosed more accurately with CT scan 5*. For large hydatid cyst medical treatment with albendazole is not effective and surgical excision is the only way to cure it. [1]

CASE REPORT

The patient was a 7 years old male child from Baglung. His father was a farmer. He presented with cough with mucopurulent sputum on and off of seven months. He also had intermittent high grade fever with difficulty in breathing. Patient also had occasional haemoptysis. According to the child's father patient had lost some weight during that period. However his appetite was normal. In Baglung, he was treated with antibiotics several times with temporary relief. Therefore, the patient was referred to western regional hospital, Pokhara where hydatid cyst was suspected with a chest X-ray and he was referred to Kathmandu. Before referral, he was treated with one month course of albendazole but no improvement. There was no history suggestive of tuberculosis or any other chest infection in childhood. Patient didn't have dog in his house.

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On physical examination the child looks healthy and was not dyspnoea. Pulse rate was 100/minute, body temperature was 37 degree centigrade and respiratory rate was 20/minute. On chest examination breath sound was decreased on whole left chest and on lower zone of right chest. There was generalised course crepitation on left side and slight wheezing on both side. On cardiovascular examination, S1 and S2 was normal, and there was no murmur. Abdominal examination was unremarkable.

On laboratory examination, Hb was 11.0 gm%, WBC was 9600/cu.mm with 20% eosinophil. ESR was 50 mm in first hour. Blood sugar and urea were within normal limits. Routine urine examination was normal. Mantoux test was negative EKG was normal, Sputum for culture showed mixed growth, Chest X-ray P/A and right obligue view showed two homogenous mass lesions with clear margin, on right side it was on lower lobe measuring 6 × 6 cm and on left side it was covering almost whole lung field except a part of lower zone and upper lung field was hazy (figure 1 and 2). Ultrasonography of chest showed cyst on both lung with multiple daughter cysts inside and the provisional diagnosis was bilateral hydatid cyst of lung. Abdominal ultrasound did not show any cyst in the liver.

With the diagnosis of bilateral hydatid cyst of lung, the patient was operated, a bilateral anterio-lateral thoracotomy through 4th intercostal space on supine position was performed, first on the left side. There was a huge cyst on lingular lobe compressing both lower lobe and remaining part of upper lobe. Thoracic cavity was packed with towel soaked in 2% formalin, and linear transverse incision was performed over the peri cyst (adventitia) of lung and bright white coloured endocyst was exposed.

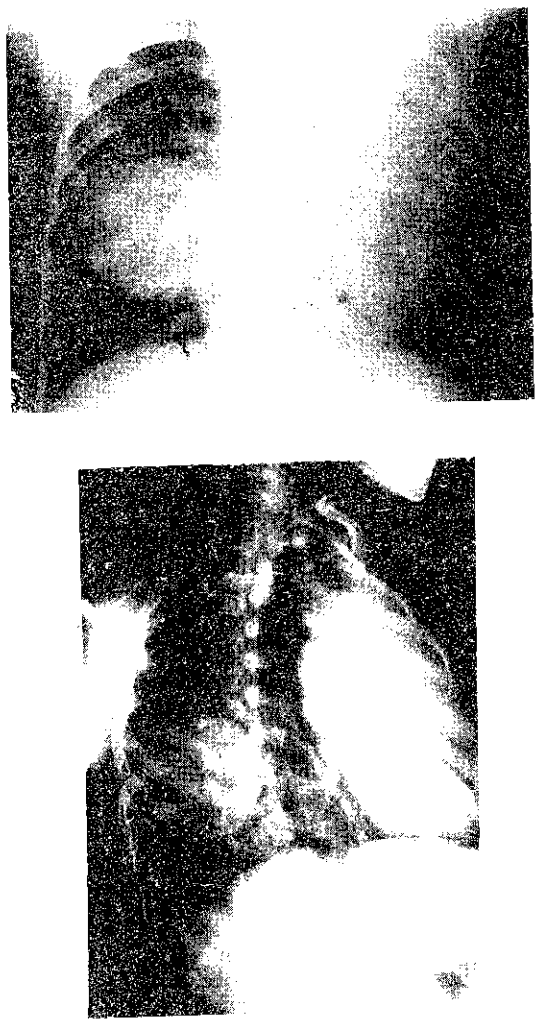

Figure 1 and 2: Chest X-ray showing bilateral hydatid cyst of lung PA and right lateral view.

Anaesthetist was asked to bag with 25-30 cm of water and the hydatid cyst was delivered intact. There were two draining bronchus which was closed with 3-0 vicryl. Collapsed lower lobe of lung expanded immediately and atelectic upper lobe did not expand. The margin of cavity was approximated with four loose stitches, a chest tube was inserted and wound was closed in layers. On the same

sitting again right thoracotomy was performed and hydatid cyst located on the apical segment of lower lobe was excised intact. The single draining bronchus was closed with vicryl, margin of the cavity approximated with loose stitches and wound closed after inserting a drainage tube. Post operatively, the patient was kept in intensive care unit with continuous negative suction through water seal bottle with 15 cm of water. A combination antibiotics ampicillin, cloxacillin and gentamycin were given for 7 days. Post operative course was uneventful and the chest tubes were removed on second post operative day. The patient was transferred to general ward on 3rd post operative day and was discharged on 10th post operative day. Chest X-ray performed before discharge (fig 3), showed air filled cavity at the site of the cyst on right lung, and on left side, these was expansion of lower zone with air fluid cavity on middle zone and haziness on upper zone due to atelectasis of upper lobe. The right cyst was 6 cm × 6 cm in diameter and left one was 20 cm × 15 cm in diameter. The histological report was hydatid cyst.

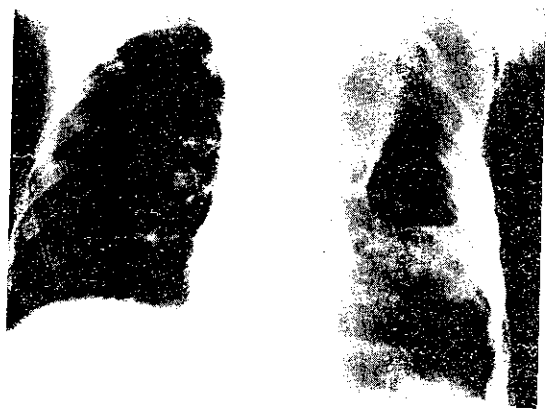

Figure 3 : Chest X-ray after thoracotomy and excision of bilateral hydatid cyst. Right lung shows cavity on mid zone, left lung shows cavity with fluid on left mid zone with atelectasis of left upper lobe.

DISCUSSION

Though hydatid cyst of lung is not uncommon in Nepal, such a huge hydatid cyst in a small child of seven years has not been reported. Unlike in liver where hydatid cyst grows about 1 cm/year in lung it can grow much faster.

When hydatid cyst is found on both lungs, two thoracotomy is done at different interval because of possibility of pulmonary complications due to bilateral thoracotomy. In our case, the reason for doing bilateral thoracotomy in one sitting was because the child was from remote part of Nepal and he didn't have shortness of breath at the time of admission, again for child's family two operations at different interval and admission in hospital twice with prolonged hospital stay will be inconvenient and expensive. First we did left sided thoracotomy and enucleation of hydatid cyst, which went quite smoothly, then we went ahead with thoracotomy and removal of the cyst on right side. According to study done by crausaz et al, if hydatid cyst is present in both lung they should be removed with two separate incision at the same time, because of fear of rupture, of contralateral cyst at the process of delivering the cyst, leading to serious complication.[3]

Surgical excision of large hydatid cyst should be done, because of complications such as secondary infection and anaphylactic reaction if ruptured.[1] If hydatid cyst ruptured in pleural space it may cause dissemination of hydatid cyst in pleural cavity. According to some studies medical treatment with albendazole is effective in 40% of cases of small hydatid cyst 91). But it has to be proven with more studies for large hydatid cyst, therefore, surgical enucleation of hydatid cyst is only way to cure large hydatid cyst of lung and usually after excision remaining lung expands, fully. Even in case of infected hydatid cyst, simple enucleation of cyst is possible in 70% of cases and in 30% of cases lung resection is necessary.[2] Some author has tried treating hydatid cyst with aspiration of hydatid fluid under CT guidance and injection of hypertonic

saline into the cyst and claimed to have good result.[6] But it can be risky because of possibility of anaphylactic reaction due to leakage of hydatid fluid and dissemination of hydatid cyst.

Though other authors have diagnosed hydatid cyst of lung with fine needle aspiration cytology, it should not be done because of risk of complication.[4] In all doubtful cases, thoracotomy should be done for diagnosis and treatment.

CONCLUSION

We think, in patient with bilateral hydatid cyst of lung with good pulmonary function, bilateral thoracotomy and enucleation of cysts should be performed in one sitting instead of going under two operations after an interval.