

# An Unusual Case of Hemoptysis in a Child

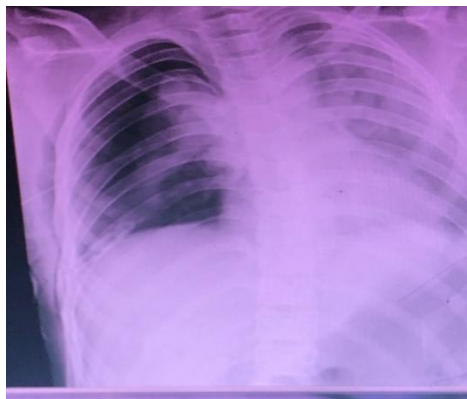
Amit Kumar Baghel<sup>1</sup>, Eti Udenyia<sup>2</sup>, Gunjan Kela<sup>3</sup>

<sup>1,2</sup>Junior Resident, Sri Aurovindo Medical College and PGI Institute, Department of pediatrics, Indore, Madhya Pradesh, India

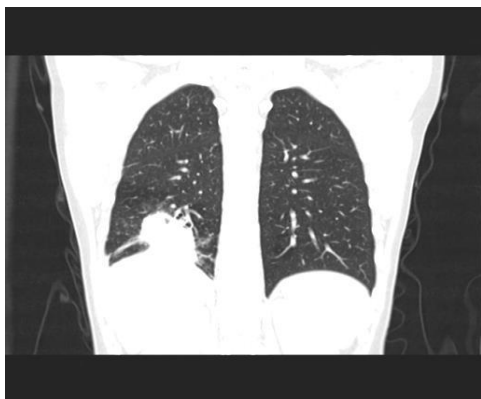
<sup>3</sup>Associate Professor, Sri Aurovindo Medical College and PGI Institute, Department of pediatrics, Indore, Madhya Pradesh, India

## 1. Case Report

A 10 year old male child, first time presented in December 2017, came to us with chief complaints of cough, since 10 days along with hemoptysis since 2 days (2 episodes). Child had no history of fever, weight loss, breathlessness, loss of appetite, family history of asthma/ tuberculosis or any contact. On investigations mantoux test was positive. Chest X-Ray was done which shows cavitory lesion in right lower lobe. Induced Sputum was sent for AFB staining and CBNAAT study, both were reported negative. High-resolution computed tomography (HRCT) Chest was done, s/o mass like consolidation in right lower lobe with surrounding ground glass opacity patches and multifocal tree-in-bud opacities s/o infective etiology. Repeated samples of Induced sputum were sent for CBNAAT, patient was continued on cough medications. None of the sample was reported positive. Patient was started on AKT, category 1 and was discharged.



**Figure 1 (a):** X RAY S/O? cavity? Mass like consolidation in right lower lobe



**Figure 1(b):** HRCT Chest – s/o mass like consolidation in right lower lobe with surrounding ground glass opacity patches and multifocal tree-in-bud opacities s/o infective etiology

Patient was called on for regular follow-ups. Patient had improvement clinically, hemoptysis stopped and cough reduced significantly. AKT was continued, after intensive phase (2 months), repeat chest X-ray was done which had no resolution radiologically. After 4 months of AKT, (2 months intensive and 2 months Continuation) in May 2018, patient started having complaints of cough, more during night time, not associated with distress, associated with sticky, scanty, yellowish sputum. Patient also had hemoptysis, 10-15 ml of fresh blood initially, that later on increased upto 25-30 mL blood in 24 hrs. Patient was re-admitted and evaluation was done for cause of re-appearance of symptoms.



**Figure 2(a):** Chest X RAY after deterioration suggesting progression of pathology.



**Figure 2(b):** Repeat HRCT Chest was s/o irregular heterogenous attenuation lesion in apical region of right lower lobe with perilesional speculations. Follow up study reveals progression of disease

FNAC of the lesion was done s/o inflammatory pathology. FNAC sample was also sent for AFB staining and was reported negative.

Pediatric surgery intervention was planned. Intra operative findings were- Multiple cystic lesions occupying whole of the right lower lobe, Normal right upper & middle lobes, No adhesions/pus. FNAC from right lung lower lobe show numerous macrophages, few squamous cells and respiratory epithelial cells of normal morphology on background of RBC's and few inflammatory cells. Atypical cells not seen in smear study.

Inflammatory lesions suggestive of multiple hydatid cyst of Right lung lower lobe. Albendazole given for 4 weeks after treatment air entry improved in lungs and no recurrence seen.



Figure 3(a): Immediate post-op X-Ray

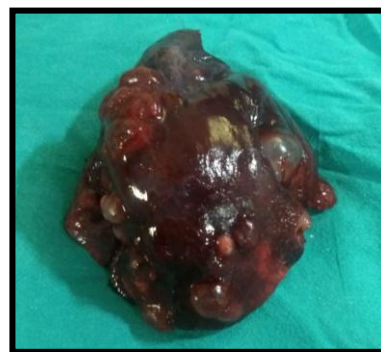


Figure 3(b): Excised specimen

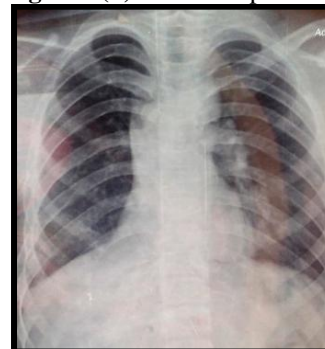
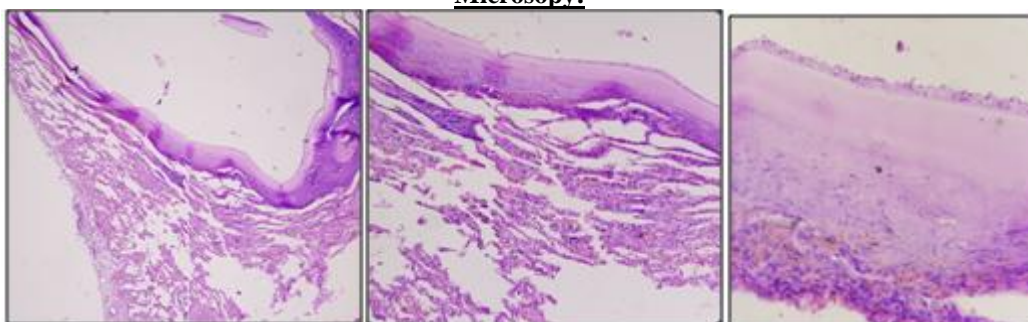


Figure 3(c): Follow up X-ray after 4 months

**Microscopy:**



**2. Discussion**

Hydatidosis is caused by *E. granulosus* which occurs mainly in dogs. Humans who act as intermediate hosts get infected incidentally by ingesting eggs from the faeces of the infected animal. The eggs hatch inside the intestines and penetrate the walls, entering blood vessels and eventually reach the lungs where they may form cysts or move on towards the lungs. Even after pulmonary filter, a few still make it to the systemic circulation and can lodge in almost any part of the body, including the brain, heart and bones<sup>(1,2,3,4)</sup>.

It is more often seen in male patients<sup>(5)</sup>. There is a higher incidence of pulmonary infestation than hepatic in children<sup>(6)</sup>, lung involvement tends to decline with age<sup>(7)</sup>. Common presentation: cough, fever, chest pain, weight loss, hemoptysis<sup>(8)</sup>. Most hydatid cysts are acquired in childhood and are manifested during early adulthood<sup>(3)</sup>.

Cysts develop insidiously, usually being asymptomatic initially, and present with protean clinical and imaging feature<sup>(2,4,9,10)</sup>.

Radiological assessment is most commonly done by X-ray and Computed Tomography (CT). Various signs are seen such as, 'crescent', 'water lily', 'double arch', 'ring within a ring', 'whirl' etc on an X-ray<sup>(8,11)</sup>. Serological tests: helpful but measurable immunological responses do not develop in many patients. Both qualitative (immunoelectrophoresis) and quantitative (ELISA) are available, though the most sensitive is IgG ELISA<sup>(8)</sup>.

Common Causes	Rare Causes
1) Infections: Pneumonia, Tracheobronchitis, Tuberculosis.	8) Infections: Lung abscess, Aspergillosis, Echinococcosis.
2) Cystic fibrosis	9) Intrathoracic lesions: Bronchogenic cyst, anomalous vessel (vascular anomalies associated with absent left pulmonary artery.)
3) Foreign body aspiration	10) Autoimmune disorder (SLE, PAN, HSP, Wegener's granulomatosis, Goodpasture syndrome)
4) Nasopharyngeal bleed	11) Neoplastic conditions (bronchial adenoma, bronchial

	carcinoid, fibrosarcoma, laryngotracheal papilloma).
5) Tracheostomy related	12) Metastatic tumours ( wilms, osteosarcoma, endometriosis)
6) Pulmonary hemosiderosis	
7) Bronchiectasis	

### 3. Conclusion

A possibility of hydatid cyst in cases of lung infections should be kept in endemic areas irrespective of history and radiological features. Hydatid cyst in lung can get complicated and ruptured if left untreated and then cause mortality or morbidity. Serological tests may be of some help in cases of suspicion.

### References

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