

## Medical Quiz Answers

- A1. Big , Well circumscribed homogenous lobulated mass in the left mid zone.
- A2. Hydatid Cyst of the lung.
- A3. Further chest imaging with CT-scan combined with Serology tests for echinococcosis.
- A4. Surgical excision combined with anthelmintic drugs (Albendazole).

### DISCUSSION

Hydatid disease caused by infection with the tapeworm echinococcus, it is a zoonotic disease commonly encountered among people raising sheep, where humans are infected through contact with infected animals directly or through ingestion of the parasite eggs released by the infected animals in their stool<sup>1</sup>.

Hydatid disease is not transmitted from person to person, or by a person eating the meat of an infected animal, but it's usually acquired by "hand-to-mouth" transfer through ingesting food, water or soil contaminated with stool from infected dogs or sheep like grass, herbs, or green vegetables gathered from contaminated fields or by direct petting or handling infected dogs or sheep<sup>2</sup>.

Patients with hydatid disease are usually asymptomatic at the beginning of their illness because of the natural slow growth of the echinococcus larva (1 cm within the first 6 months, followed by an annual 1 cm growth) and commonly it take years before developing into a large cyst, where the patient start to be symptomatic, symptoms of hydatid disease depend on the organ involved, size, number and site of the cysts<sup>3</sup>.

Hydatid cysts may be found in almost any site of the body, the liver is the most affected organ, followed by the lung which is affected in approximately 25 percent of all cases, other less common affected organs including the brain, muscle, kidneys, bone, heart, and pancreas<sup>4</sup>.

Approximately 60 percent of pulmonary hydatid disease affect the lower lobes<sup>5</sup> and 20 percent of patients with lung cysts found to have liver cysts at the time of their diagnosis<sup>6</sup>.

The most common symptoms of hydatid disease of the lung is cough (53 to 62 percent), chest pain (49 to 91 percent), dyspnea (10 to 70 percent), and hemoptysis (12 to 21 percent)<sup>7</sup>.

Complications include cyst rupture with spillage into the bronchial tree or the pleural cavity with consecutive pneumothorax, pleural effusion, or empyema<sup>8</sup>.

The diagnosis is usually achieved by the typical radiological finding on CT chest in combination with positive serologic testing. Diagnostic percutaneous aspiration or biopsy should be reserved only for difficult cases considering the potential risk for anaphylaxis and secondary spread of the infection associated with such procedure<sup>9</sup>.

Surgical resection is the treatment of choice for management of hydatid lung disease with adjunctive anthelmintic therapy Albendazole for 3-6 months<sup>9</sup>.

Prevention of Hydatid diseases include hand wash with soap and water after handling animals such as dogs or sheep and before handling food, in addition to careful washing of all fresh food products. Other public health measures should be considered in endemic areas such as vaccination of lambs, culling of older sheep and control of stray dog populations with periodic deworming<sup>9</sup>.

### CONCLUSION

**Hydatid disease of the lung should be considered as differential diagnosis of lung mass among patients with history of travel to endemic areas. Diagnosis is made by clinical history combined with typical CT scan finding and positive serology. Management of Lung hydatid cyst include surgical resection & anthelmintic.**

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**Potential Conflicts of Interest:** None.

**Competing Interest:** None.

**Sponsorship:** None.

**Acceptance Date:** 28 August 2021

### REFERENCES

1. McManus D, Zhang W, Li J, et al. Echinococcosis. *Lancet* 2003;362(9392):1295-304.
2. Agudelo N, Brunetti E, McCloskey C. Cystic Echinococcosis. *J Clin Microbiol* 2016; 54(3):518-23.
3. Sayek I , Onat M. Diagnosis and Treatment of uncomplicated hydatid cyst of the liver. *World J Surg* 2001;25(1):21-7.
4. Santivanez S, Garcia H. Pulmonary cystic echinococcosis. *Curr Opin Pulm Med* 2010; 16(3):257-61.
5. Arinc S, Kosif A, Ertugrul M, et al. Evaluation of pulmonary hydatid cyst cases. *Int J Surg* 2009;7(3):192-5.
6. Turgut A, Altinok T, Topçu S, et al. Local complications of hydatid disease involving thoracic cavity: imaging findings. *Eur J Radiol* 2009;70(1):49-56.
7. Dziri C, Haouet K, Fingerhut A, et al. Management of cystic echinococcosis complications and dissemination: where is the evidence? *World J Surg* 2009;33(6):1266-73.
8. Brunetti E, Kern P, Vuitton DA. Expert consensus for the diagnosis and treatment of cystic and alveolar echinococcosis in humans. *Acta Trop* 2010; 114(1):1-16.
9. WHO, Control of echinococcosis? 2021.