

## CASE REPORT: Pulmonary hydatid disease

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A 26-year-old married male soldier from Kaduguli, Khordofan Region, was admitted to Abu-Anja Hospital in Khartoum with a six-month history of cough and chest pain. The cough was productive of copious sputum and occasionally stained with blood.

At onset, the cough had been non-productive and not associated with other symptoms of clinical significance. The patient denied recent weight loss and had weighed 67 kilograms at Kaduguli Hospital. A clinical diagnosis of tuberculosis was made and empirical anti tuberculous therapy started. There was no improvement after three months necessitating admission to Abu-Anja Hospital. The patient smoked cigarettes and consumed an unspecified amount of alcohol.

### Clinical Examination

On clinical examination the patient was in good general condition without finger clubbing, pallor of mucous membranes or wasting. There was a regular pulse of 97 per minute with a blood pressure of 130/85.

Wheezes were heard in the chest and evident bilateral basal crackles. The following differential diagnoses were considered: broncho-pulmonary aspergillosis, lymphangitis carcinomatosa, chronic fibrosing alveolitis (CFA) and hydatidosis. A number of investigations were carried out to arrive at a diagnosis

### Results of investigations.

The chest Xray (CXR), the cheapest test available to us revealed multiple rounded opacities simulating canon balls (see Figure 1). The full blood count showed a haemoglobin of 12.7gm/Litre, total white cell count was 9,800/cubic millilitre (2% eosinophils, 10% lymphocytes, 2% monocytes, 86% polymorphonuclear cells). The blood film showed normochromic normocytic red cells. Ultrasonography of the abdomen revealed large kidneys with bilateral renal cysts (see Figures 2 and 3), but the appearance of the liver, spleen, gall bladder and pelvic organs was normal. Three sputum samples for acid alcohol fast bacilli (the causative organism for tuberculosis) were negative. The Mantoux test produced a 12mm weal suggestive of previous exposure to tuberculous organisms or BCG immunisation. The Casoni's test was negative.



Picture 1. X-ray of lungs showing rounded opacities (canon balls) in both lungs.



Figure 2 Ultrasound of the kidney showing cyst.

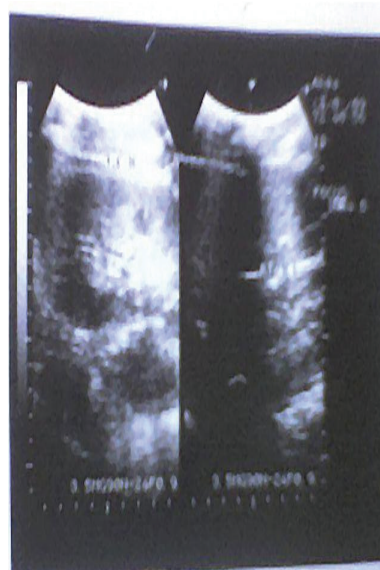


Figure 3: Ultrasound of both kidneys showing multiple cysts.

### Differential Diagnosis

The following differential diagnoses after the tests were considered: metastases to the lungs, pulmonary hydatid disease and coal workers' pneumoconiosis.

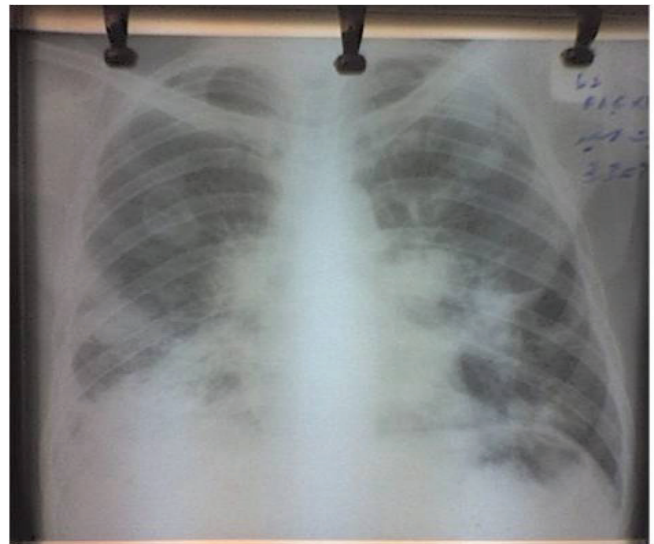
Metastases to the lungs and pneumoconiosis were considered less probable given the patient's good general condition and his occupation. Coal mining is not carried out in the Sudan. Pulmonary hydatid disease was considered the most likely clinical diagnosis as this condition is not uncommon in the Sudan. The patient was treated with albendazole 400mgs twice a day taken with meals, aiming to complete three cycles of twenty-eight days of treatment separated by fourteen days of treatment free periods. He also received supportive treatment with analgesics, multivitamin tonic and cough relieving medication. He was prescribed anti emetics, as nausea is a recognised side effect of albendazole.

### Follow-Up

Two months after starting treatment some resolution of the lung opacities was noted (see Figure 4). The cough had resolved and his chest pain improved. No follow up ultrasonography was available to gauge any improvement in the involved internal viscera following treatment with albendazole.

### Discussion

On the basis of the improvement in the patient's clinical and radiological features following treatment with albendazole, the final diagnosis was hydatid disease with pulmonary involvement. Hydatid disease occurs when humans ingest the larval stage of the dog tapeworm *Echinococcus granulosus* or *multilocularis*. Infection with *E.granulosus* occurs in early childhood when children come into contact with infected dog's faeces or when they eat vegetables or improperly washed vegetables or fruit contaminated with dog faeces. The embryos hatch in the duodenum, penetrate the portal blood system and are carried to the liver, lungs and almost all organs in the body. Cysts develop over the years in the affected organs and produce their effects by sheer pressure unless the cysts rupture when anaphylaxis may occur. It is surprising that the liver in this patient was not as affected as his kidneys and lungs as it is usually the most commonly affected organ.



Picture 4. X-ray of lungs showing resolving rounded opacities.

### References

1. *Clinical Medicine* edited by Kumar P, Clarke M and Saunders WB pp96-97 4<sup>th</sup> Edition 1998
2. Magambo JK, Zehyle E and Wachira T. *Hydatid Disease in Toposaland, Southern Sudan*. Africa J Health Sci. 1998; Jul-Dec v5 (3-4):129-32
3. *Guidelines for the treatment of cystic and Alveolar Echinococcus in humans*. WHO informal working Group on Echinococcosis. Bull. World Health Organisation 1996;74:231-42

### DID YOU KNOW?

1. Every year, around 3.7 million babies die during their first four weeks of life. See page 12 for what you can do to reduce these deaths.

And:

2. More than 500,000 women in developing countries die every year as a result of complications during pregnancy and childbirth. About half of these deaths occur in sub-Saharan Africa where a woman's lifetime risk of maternal death is 1 in 22, compared with 1 in 8,000 in industrialised countries. About 1/3 of these deaths are caused by haemorrhage.

Source:

[http://www.childinfo.org/maternal\\_mortality\\_progress.html](http://www.childinfo.org/maternal_mortality_progress.html)