

## A REVIEW ON HYDATID DISEASE

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### DEFINITION

**Echinococcosis, also called hydatid disease, hydatidosis, or echinococcal disease,**

A condition resulting from the presence in the liver, lungs, or brain of hydatid cysts the cysts of *Echinococcus multilocularis* from malignant tumours, those of *E. granulosus* exert pressures they grow and thereby damage surrounding tissues.

### Aetiology

The disease is spread when food or water that contains the eggs of the parasite is eaten or by close contact with an infected animal. The worm has a life cycle that requires definitive hosts and intermediate hosts. Definitive hosts are normally carnivores such as dogs, while intermediate hosts are usually herbivores such as sheep and cattle.

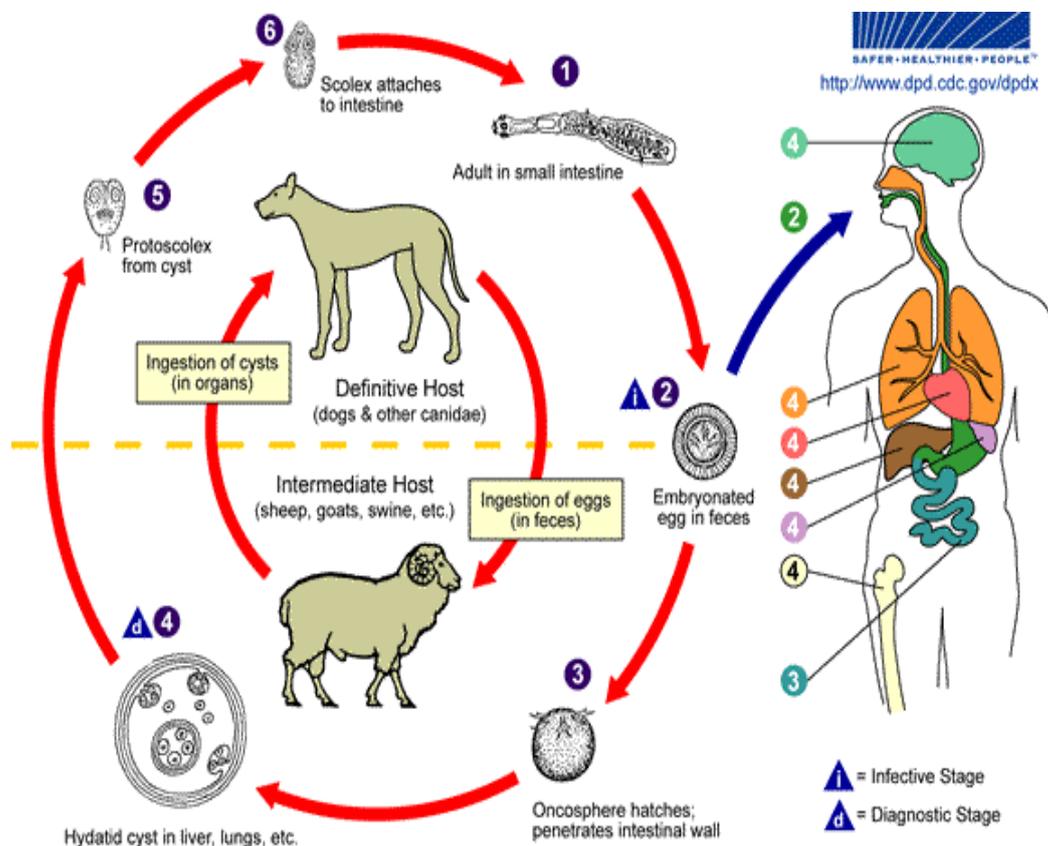
Humans function as accidental hosts, because they are usually a dead end for the parasitic infection cycle.

### Pathophysiology

The disease is spread when food or water that contains the eggs of the parasite is eaten or by close contact with an infected animal. The eggs are released in the stool of meat-eating animals that are infected by the parasite. Commonly infected animals include dogs, foxes and wolves. For these animals to become infected they must eat the organs of an animal that contains the cysts such as sheep or rodents. The type of disease which occurs in people depends on the type of *Echinococcus* causing the infection.

### Lifecycle

An adult worm resides in the small intestine of a definitive host. Afterwards, gravid proglottids release eggs that are passed in the feces of the definitive host. The egg is then ingested by an intermediate host. The egg then hatches in the small intestine of the intermediate host and releases an oncosphere that penetrates the intestinal wall and moves through the circulatory system into different organs, in particular the liver and lungs. Once it has invaded these organs, the oncosphere develops into a cyst. The cyst then slowly enlarges, creating protoscolices and daughter cysts within the cyst. The definitive host then becomes infected after ingesting the cyst-containing organs of the infected intermediate host. After ingestion, the protoscolices attach to the intestine. They then develop into adult worms and the cycle starts all over again.



### Clinical manifestations

- Abdominal pain,
- Weight loss,
- Lung disease may cause pain in the chest, shortness of breath and coughing.
- Abnormal abdominal tenderness

- Hepatomegaly with an abdominal mass
- Jaundice,
- Fever and/or anaphylactic reaction.

### Diagnosis

- Serology tests (such as indirect hemagglutination, ELISA (enzyme linked immunosorbent assay), immunoblots or latex agglutination) that use antigens specific for *E. granulosus* are used to verify the imaging results.
- Ultrasound though computer tomography (CT) or magnetic resonance imaging (MRI) may also be used.
- Biopsy.

### Treatment

- The cystic disease may be drained through the skin, followed by medication. Sometimes this type of disease is just watched. The alveolar type often needs surgery followed by medications. The medication used is albendazole which may be needed for years. The alveolar disease may result in death.
- For inoperable cases such as these, chemotherapy and/or PAIR (puncture-aspiration-injection-reaspiration) become alternative options of treatment.
- In the case of alternative treatment using just chemotherapy, albendazole is preferred twice a day for 1–5 months. An alternative to albendazole is mebendazole for at least 3 to 6 months.

### CONCLUSION

The disease occurs in most areas of the world and currently affects about one million people. Alveolar and polycystic echinococcosis are rarely diagnosed in humans and are not as widespread as cystic echinococcosis, but polycystic echinococcosis is relatively new on the medical scene and is often left out of conversations dealing with echinococcosis, and alveolar echinococcosis is a serious disease that has not only a significantly high fatality rate, but the potential to become an emerging disease in many countries.

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