Cestoda

Echinococcus granulosus

Common name: echinococcosis ; hydatidosis or hydatid cyst.

Habitat: adult worm resides in the small intestine of dog and other canine animals. Larval form is seen in man and other intermediate hosts (sheep, goat, cattle ,pig and horse).

Morphology:

Adult worm:- It is small tapeworm measuring 3-6 mm. in length. It consist of a scolex, neck and strobila.

Scolex: It is pyriform in shape and measures about 300 Mm. in diameter. It possesses four suckers and a protrusible rostellum with two circular rows of hooklets. (30- 36 hooks)

Neck: It is short and thick.

Strobila: It consist of three segments. The first segment is immature, the second is mature and the third is gravid.

Egg:- These are indistinguishable from those of other taenia species.

Hydatid cyst:- The entire structure is called a hydatid cyst. Within the cyst, miniaturizations of the entire hydatid cyst, may occur and are referred to as daughter cysts. Both types of cysts are surrounded by a protective cyst wall and laminated layers of germinal tissue in addition, broad capsules, which lack a protective cyst wall, from the inner germinal layer. Developing scolices are found within these structures. Each scolex, once fully. Developed has the capability of developing into an adult worm when present in the definitive host A hydatid sand may evolve in the fluid of older cysts.

Life cycle:- Hexacanth eggs, either singly or within proglottids are passed in dog feces and become embryonated into soil under normal condition , these eggs are ingested by the natural intermediate hosts (sheep, cattle, pig and horses) or by the accidental host (humans). The larvae are released from the eggs in the intestines of the intermediate hosts, and by means of their hook lets , bore through the bowel wall and enter the circulation. The circulating embryos filtered out in the capillaries of various organs (liver, lung and brain). The life cycle is complete when infected viscera of the intermediate host are eaten by a dog fox ,or other carnivore.

Clinical symptoms :-

• Vary by size and site of cyst.

• Usually no symptoms until cyst becomes enlarged.

• Liver cyst: jaundice, portal hypertensions, pain

• Lung cyst: coughing, shortness of breath, chest pain.

Brain cyst: seizures, paralysis rupture of cyst : anaphylactic s shock, spread of scolices, death.

Lab. diagnosis:-

1. Serological tests such as ELISA and IHA test.

2. Detection of the hydatid cyst may be accomplished using radiography as well as computed tomography (CT) or ultrasound scan techniques.

3. Biopsy samples : Examination of hydatid cyst fluid further presence of scolices, daughter cysts.