

Images in clinical medicine



Histopathology of the neglected zoonosis: cystic echinococcosis

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Histopathology of the neglected zoonosis: cystic echinococcosis

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Image in medicine

Hydatid disease (cystic echinococcosis), is a parasitic disease caused by the intermediate stage of echinococcus granulosus in humans. The adult parasite is a small tapeworm living in the intestines of canidae. The dog-sheep cycle besides pastured cattle is important in many geographic areas. Hundreds of surgical operations to remove hydatid cysts and related complications take place in each year. Cysts occur mostly in the liver and lungs, and are usually less than 10 cm in diameter when clinically diagnosed but can attain larger sizes. Rupture and spillage of cyst fluid during surgery or trauma are important. If the hydatid cyst content has viable protoscolices (about 50% among resected surgical cases in our region),

these structures result in numerous new cysts in the spillage area, besides a risk of anaphylaxis to the cyst fluid. Hydatid cysts in humans have a thick acellular laminated membrane with a tiny inner germinative layer yielding protoscolices which helps to distinguish it from other cestode cysts. A related parasite, *Echinococcus multilocularis* (alveolaris) lesions mimic malignancy with invasive minute cysts without germinative layer and

protoscolices in humans. Another cystic tissue parasite of humans, cysticercosis shows minute cysts (commonly less than 2 cm) with a larval form in each. Hydatid cysts may lose their germinative layer and protoscolices in time, however, a periodic acid-Schiff (PAS) stain may reveal the thick laminated membrane of the parasite differentiating it from an epithelial cyst or amebic abscess readily.

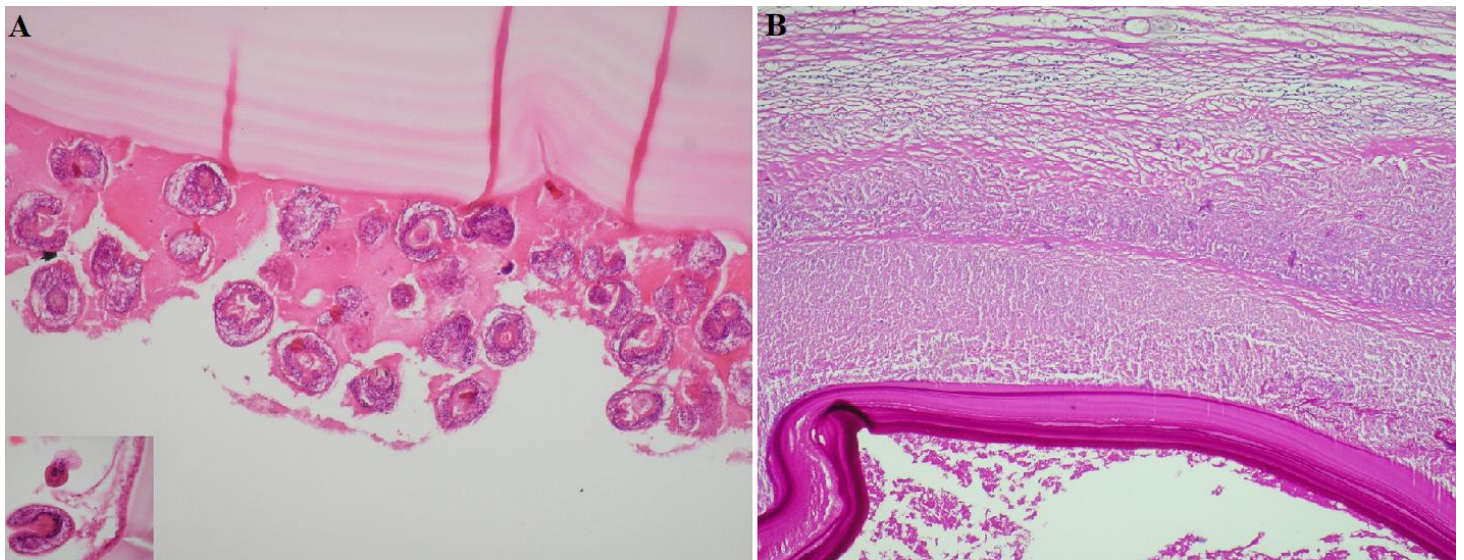


Figure 1: A) microscopic section of a resected hydatid cyst with protoscolices nearby the thick acellular laminated membrane of the parasite (inset shows budding from the tiny germinative layer) (HE x100, inset x200); B) strong PAS stain positivity of the acellular membrane but no viable protoscolices (PAS stain x200)