

Histopathological studies on metacestode *cysticercus tenuicollis* in pigs

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Cysticercus tenuicollis in pigs is the larval stage (metacestodes) of the dog tapeworm, *Taenia hydatigena*. These metacestodes are found attached to the omentum, mesentery, under the liver capsule, occasionally on peritoneum and pleura of the intermediate host, i.e. pig, wild boar or ruminants. The size of the cysts (*C. tenuicollis*) varies from 1 cm up to 6–7 cm, and the invaginated scolex has a long neck. Development of the larva to the invasive stage takes about 3 months. The prepatent period in the final host lasts 10-12 weeks.

MATERIAL AND METHODS. Morphological analysis was conducted on 96 cysts taken out from the connective, intramuscular and fat tissue of the throat (mainly soft palate) and 3 cysts from kidneys of slaughtered pigs originated from Silesian farms. The sections of the cyst walls were stained by routine haematoxylin and eosin (H-E) method. The fluid from the cysts was aseptically collected using a sterile disposable syringe and was subjected to centrifugation at 5,000 rpm for 5 min. The sediment fixed in 70% ethanol and stained with the H-E was examined under the microscope at 200x and 400x magnifications to detect the presence/absence of the scolex. DNA isolations from cysts were conducted using a commercial kit (Bead–Beat Micro AX Gravity, A&A Biotechnology). A multiplex PCR was performed for the identification of the taeniid tapeworms using primers targeting mitochondrial genes (Traschsel *et al.,* 2007).

RESULTS. Morphological investigations revealed the presence of single as well as multiple cysts (with two or three chambers) in soft palate tissue and the kidney. Cysts were filled with a light or cloudy, gray-white liquid. The size of the cyst ranged from 0.5–4 cm. Histological sections showed that cysts cause pressure atrophy of surrounding kidney parenchyma. Additionally, focal lymphohistiocytic infiltrates were seen. The cyst wall was arranged in an inner and cuticular layer. The inner layer was formed from one row (focally from several layers) of high, palisade cells with centrally located nucleus. The outer layer was broad, formed of numerous fibrils with a parallel, wavy course. To the cuticular layer a richly vascularized connective tissue was adhered. All examined cysts were sterile, without scolex. Focal calcifications as well as presence of cartilaginous metaplasia in several cross-sectioned cyst walls have been demonstrated. PCR identification and analysis performed in the BLAST sequence analysis tool confirmed the occurrence of *Taenia hydatigena* in the tested samples.