Rev. Inst. Med. trop. S. Paulo
46(3):138, May-June, 2004

SUMMARY OF THESIS*

LINO JÚNIOR, Ruy de Souza - **Métodos de diagnóstico da cisticercose em autópsias.** Uberaba, 2004. (Tese de Doutoramento - Faculdade de Medicina do Triângulo Mineiro).

CYSTICERCOSIS DIAGNOSTIC METHODS IN AUTOPSIES

Many are the methods used for the clinical and the clinical pathology diagnosis of the taeniasis-cysticercosis complex. However, these methods are rarely applied to post-mortem diagnosis.

Objective: The aim was to determine the occurrence, the evolutive characteristics, the ultrastructure, the imagenology, the immunology and the molecular biology of cysticercosis in autopsies performed in the School of Medicine of the Triangulo Mineiro, in Uberaba, Minas Gerais.

Material and methods: The cysticerci found were classified into evolutive phases by macroscopy and microscopy analysis. The ultrastructural analysis was made by electronic transmission microscopy. Samples of pericardic liquid were tested for the diagnosis of cysticercosis by ELISA. Cysticerci were tested for the species characterization by PCR. The organs radiographies were made by a mammograph.

Results: The cysticercosis occurred in 3.2% of the perfomed autopsies, and the NCC was specially more frequent in white man around 50 years old. However in non-white patients the cardiac cysticercosis was significantly more frequent, as well as the observation in other parasitic diseases. Macroscopically, the cysticercosis is a cystic lesion with area varying from 40.40 to 54.09 mm^2 and with its characteristic membrane. The evolutive stages of the cysticerci were determined in macroscopy as well as in microscopy as VS, CVS, NGS and CNS. Using the morphometric analysis we verified that the cardiac cysticerci are significantly bigger than the encephalic ones. That happens probably because of the greater difficulty of the cyst's growth in the intracranial cavity. For the first time in the literature, the use of the pericardic liquid for the post-mortem diagnosis of cysticercocis by ELISA was described confirming the anatomopathological data found. This study showed the importance of the imagenology in the post-mortem diagnosis of cysticercosis. Using the simple radiography of hearts and brains was possible to detect cysticerci present in the anatomopathological study. The same technique was used to find deep cysticerci that were not externally visible or at the surface of the organ. The host parasite interaction was studied by the analysis of the general pathologic processes and the evolutive characteristics of the cysticerci in the NCC as well as in the CC. This classification showed the correspondence between the macroscopic and microscopic diagnosis. Using the electronic microscopy the ultrastructure of the human and pork cysticerci was comparatively described. Many similarities between the *C. cellulosae* found in human and in pork were observed. The common structures found in the pork musculature and in the human brain were the tegument and the intern zone. A relevant aspect was that the basal membrane of the pork cysticerci was thinner than the human's, probably because it was suffering the immunization process. Using the correct conservation of the cysts the extraction of the parasite's DNA was possible and we used PCR technique to confirm the etiological agent. This diagnosis of human cysticercosis was possible even when we used material from autopsies conserved with formaldeid by several years. It is important to underline the use of the PCR as a method of diagnosis in cysticerci tissues that are in advanced evolutive stages making it possible to identify the taenia species.

Conclusions: The cysticercosis diagnosis in autopsy material can be made in a secure and efficient way by the appliance, adaptation or/ and improvement of the techniques used in *in vivo* diagnosis.

Ruy de Souza Lino Júnior
Disciplina de Patologia Geral
Inst. Patologia Tropical e Saúde Pública
Universidade Federal de Goiás
R. Delenda Rezende de Melo, esq. com lª Avenida
74605-050 Goiânia – Goiás
e-mail: ruy@iptsp.ufg.br

*This thesis is available at the Library of the Instituto de Medicina Tropical de São Paulo