

MICROSCOPIC AND HISTOLOGICAL INVESTIGATIONS SHOW THAT *ONCHOCERCA DUKEI* IS WIDESPREAD IN TANZANIAN CATTLE

F M Dini¹, G Poglajen¹, C Benazzi¹, A Gentile¹, B Morandi², R Galuppi¹

¹ Department of Veterinary Medical Sciences, University of Bologna, 40064 Ozzano Emilia (BO), Italy.

² Istituto Zooprofilattico Sperimentale Umbria e Marche "Togo Rosati", via G. Salvemini1, Perugia, 06126, Italy



Fig. 1

INTRODUCTION: Cattle is the most widely raised animal species in Tanzania, where livestock is one of the main agricultural activities. Slaughtering takes place mainly in rural slaughter slabs and municipal slaughterhouses, and according to local legislation it must be supervised by Official Veterinarians (VOs), who report any organs to be discarded and, after stamping the carcass, authorize its free consumption. The abstract aims to describe the results of laboratory analyses on yellowish nodular formations on the surface of the thoracic muscle attributed to cysticercosis during the VO inspection at the Songea slaughterhouse (Ruvuma Region, Tanzania) (fig. 1).

MATERIALS AND METHODS: According to slaughtering records, nodules ascribed to *Cysticercus bovis* were found in 21 cattle over 614 slaughtered animals (3.4%). Eighteen muscular nodules (fig. 2) were collected from different animals: seventeen samples were stored in 70% alcohol for parasitological examinations and one in formalin for histopathology. The collected samples were processed at the Department of Veterinary Medical Sciences, University of Bologna.

RESULTS AND CONCLUSIONS: Adult nematodes (male and female) and larvae mixed with necrotic material were observed during nodule dissection (fig. 3). Based on morphological characteristics the nematodes (fig. 4-6) were identified as *Onchocerca dukei*, according to Bain et al. (1976 Ann Parasit. 51: 461-71; 1982 Ann Parasit. 57: 587-91) and Whal et al. (1994 Vet Parasitol. 52: 297-311). Histologically the muscle nodule appeared as a typical parasitic granuloma with a central area showing transverse and longitudinal sections of nematodes surrounded by necrotic cellular debris, inflammatory cells, and limited by concentric fibrous reaction (fig. 7-10). *O. dukei* has been described in several African countries (Hira et al., 1978 Ann Parasit. 53: 309-10, Vuong et al., 1994 Revue Élev. Méd. Vét. Pays trop 47: 47-51), but knowledges about its presence in Tanzania are lacking. Our report will therefore be useful in considering muscular onchocerciasis in differential diagnosis of cysticercosis in Tanzania. The possibility of having basic, very simple and inexpensive laboratory diagnostics as an aid to visual inspection may be helpful, decreasing the quantity of condemned meat at the slaughterhouse



Fig. 2

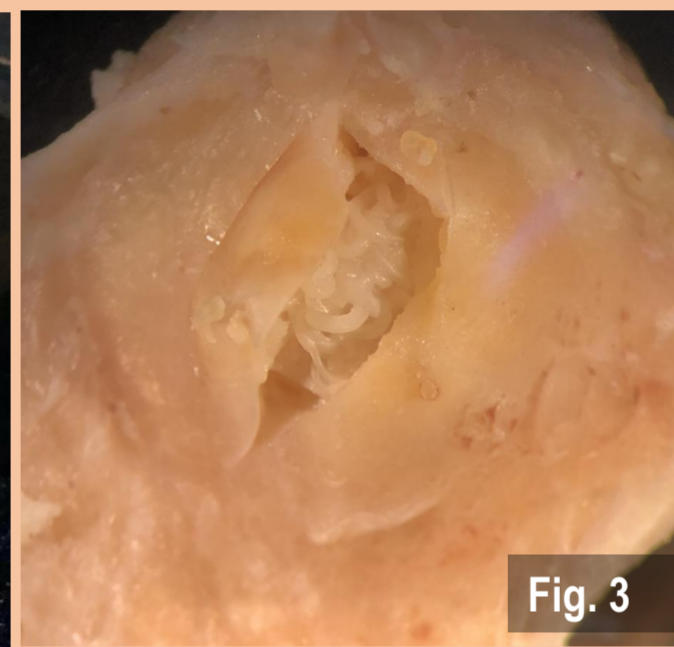


Fig. 3



Fig. 4



Fig. 5

Male tail

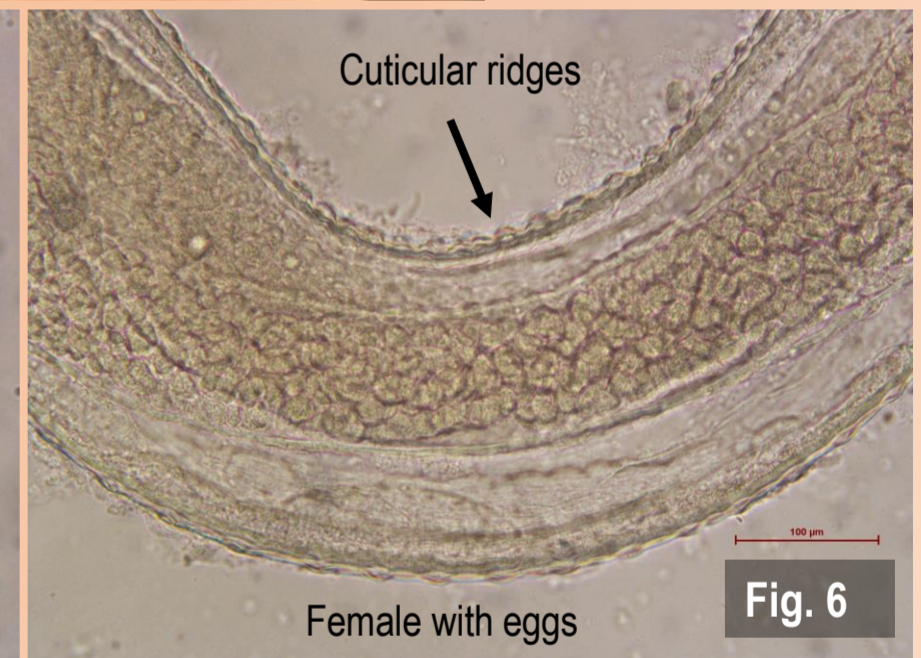


Fig. 6

Female with eggs

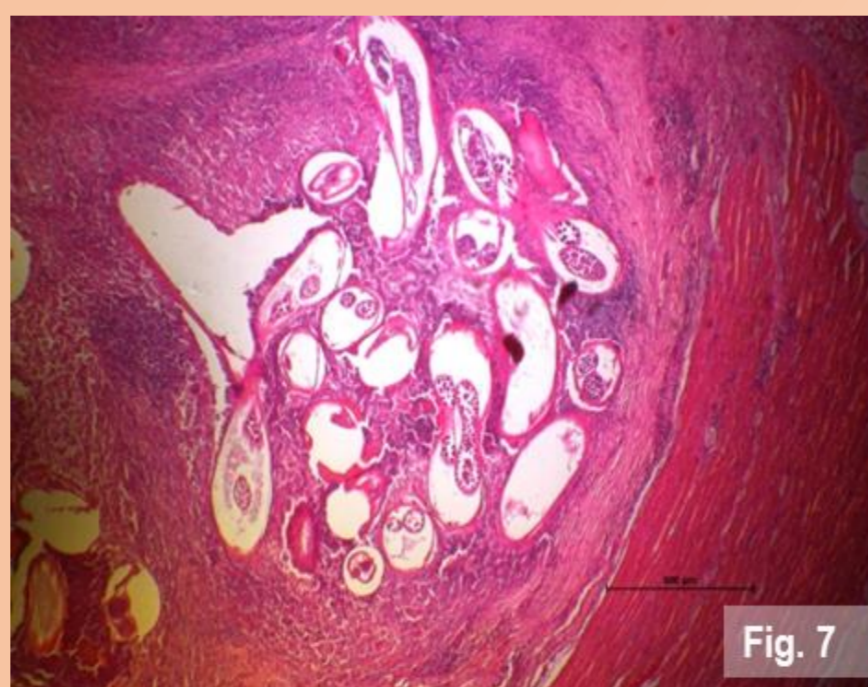


Fig. 7

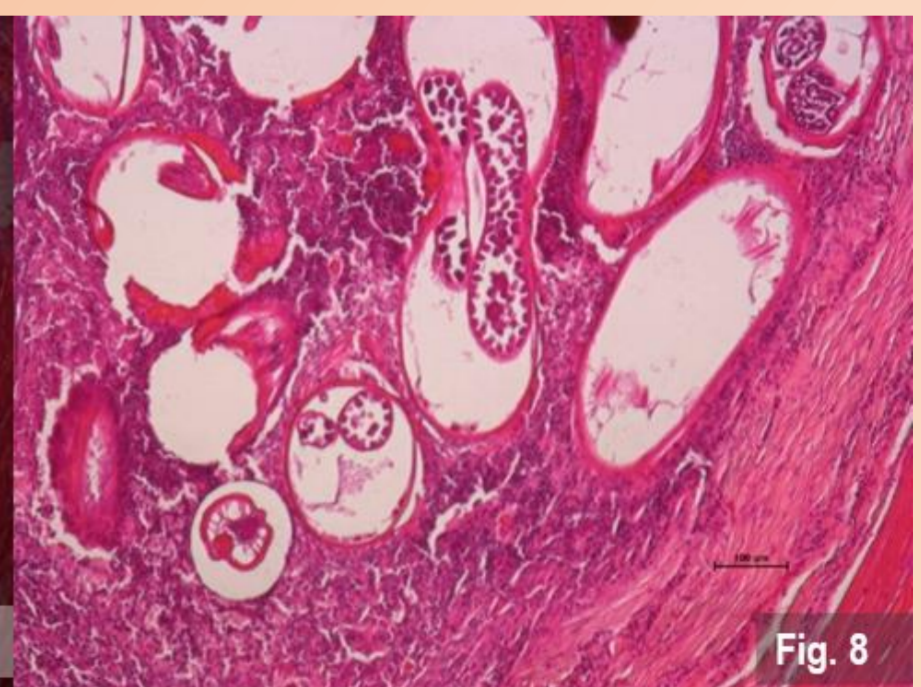


Fig. 8

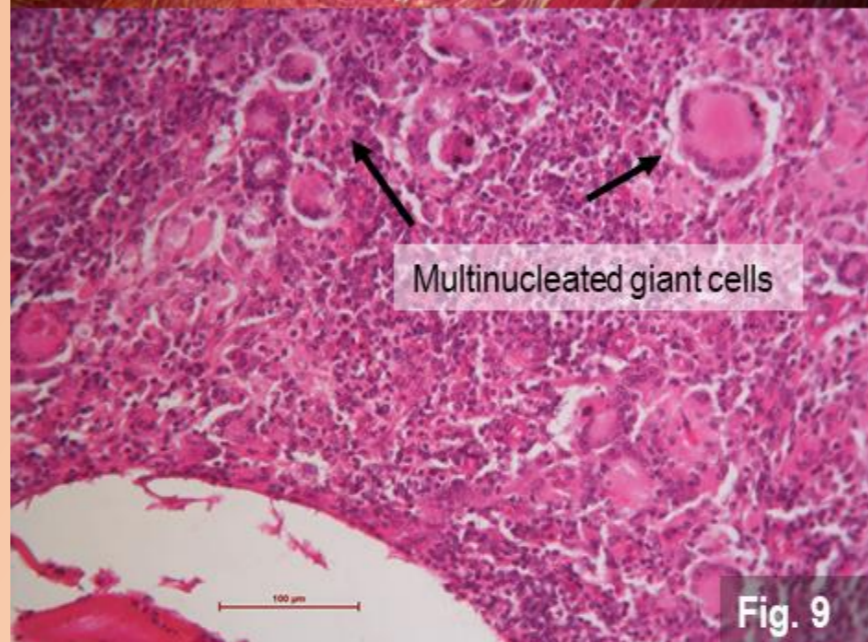


Fig. 9

Multinucleated giant cells



Fig. 10

Uterus with developing microfilariae