Identification of tumors in liver infected by *Fasciola gigantica*.

Identificación de tumores en el hígado infectado por *Fasciola gigantica*

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Dear Editor

The relationship between Fascioliasis and tumor development in the liver is unknown. 1 The aim of the present communication is to discuss a recent study that found leiomyomas (Fig. 1 and 2) in liver from infected cattle by *Fasciola gigantica*.

Bahrami et al. postulated that free radicals by oxidative stress may be associated with the pathogenesis of leiomyoma induced by *F. gigantica*. 2 The authors also reinforced the role of helminth infection in carcinogenesis. There is little evidence of the role of *Fasciola* in tumorigenesis thus Bahrami’s study is an important contribution to this area. In order to add stronger evidence of a potential direct relationship between leiomyoma and Fasciola infection, presence of the parasite within the tumor is needed. *Fasciola* releases excretion/secretion (E/S) proteinases into the host environment during the infection which may be detected by immunohistochemistry assays in animals’ or in humans. 3 Whereas the E/S proteinases from Fasciola may be different between species, a potential candidate such as the Fas2 E/S proteinase (specific marker for *F. hepatica* infection) or another cathepsine may be considered in future studies. 3,4 In addition, Schistosoma has been involved in the development of a leiomyoma in humans by detecting eggs of the parasite in the tumor. 5

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Barahmi's work and other reports are relevant evidence that fascioliasis may trigger neoplasia, but the underlying mechanism remains still unclear. The role of parasites in tumorigenesis may be difficult to demonstrate in clinical practice because of their complex natural histories and long asymptomatic latent periods of infection. Nonetheless, the identification of a trace of the parasite (i.e. E/S products, DNA, etc) into the tumoral tissue would be critical to elaborate a "proof-of-concept" hypothesis that Fasciola could potentially be associated with tumorigenesis. Future studies may complement histopathological evidence along with molecular biological studies to elucidate this observational finding.

References


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