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Immunological diagnosis of human hydatid cyst using Western immunoblotting technique

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Abstract

Echinococcosis is a parasitic disease with worldwide distribution which is caused by the tapeworms *Echinococcus granulosus*. Diagnosis of the disease relies on imaging techniques, but the techniques are not able to differentiate the cyst from benign or malignant tumors; hence, appropriate serologic methods are required for the differential diagnosis of the infection. In this investigation, different sheep hydatid cyst antigens probed with thirty sera of patients with hydatid cyst and also thirty human normal sera using Western immunoblotting technique. Considering results of surgery as gold standard, sensitivity and specificity of Western blotting was estimated. Sera of 29, 26, and 16 patients with hydatid cyst reacted with specific bands of hydatid cyst fluid (HCF), protoscolex crude antigen, and cyst wall crude antigen, respectively. However, none of the normal human sera reacted with those specific bands. A 20 kDa band of sheep HCF is an appropriate antigen for serodiagnosis of hydatid cyst infection.

Keywords: Antigen, cyst wall, hydatid cyst fluid, protoscolex, Western immunoblotting