

## **Evaluation of the diagnostic potential of different immunological techniques using polyclonal antibodies against *Fasciola gigantica* excretory/secretory antigens in sheep**

**Azza El Amir<sup>1</sup>, Ibraheem Rabee, Nour Kamal, Somaya El Deeb**

Zoology Department, Faculty of Science, Cairo University, Egypt.

PMID: 20306670

The early detection of *Fasciola* antigens (Ags) in serum or stool could be more valuable in diagnosis as early treatment would be applied before irreparable damage occurs. In this study, fresh adult *Fasciola gigantica* (*F. gigantica*) worms were cultivated for 16 hrs. Excretory/secretory (E/S) Ags were extracted from the culture medium and used to raise rabbit antibodies (Abs) to *Fasciola*. The purified Abs were then used in sandwich ELISA (S-ELISA) to detect *Fasciola* Ags in serum and stool samples from a total of 152 sheep, and sandwich-Dot-ELISA (S-D-ELISA) for the serum samples. Gross inspection of liver for flukes or other parasites was performed and results of parasitological stool examination were recorded. Accordingly, sheep were divided into healthy control group (25 sheep), *Fasciola* positive group (97 sheep) and other helminthic infection groups (30 sheep). S-ELISA for serum samples showed 91.9% sensitivity and 89% specificity. *Fasciola* Ags, detected in serum of sheep by S-D-ELISA, showed 97.2% sensitivity and 95% specificity and coproantigens detected by S-ELISA, showed 95.8% sensitivity and 92.7% specificity. Although, the specificity of stool examination was higher than that recorded for serum, the sensitivity of ELISA techniques to diagnose *Fasciola* Ags was higher than that recorded for parasitological examination. It is concluded that, S-D-ELISA has better sensitivity and specificity than S-ELISA for both stool and serum, and may prove useful for field applications.