PP-190 Role of pentoxifylline (PTX), anti-transforming growth factor β (TGFβ) in modulating hepatic fibrosis in murine schistosomiasis

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**Background:** The potential that pentoxifyllin (PTX) and anti-transforming growth factor-β (anti-TGFβ) are anti-inflammatory and anti-fibrotic.

**Methods:** Forty eight male and female BALB/c mice, age 6 weeks old, weight 20 g were infected with 400 cercariae of S. mansoni. The mice were divided into 4 groups: (1) control (C) (n= 12), infected without PTX treatment, (2) PTX (n=12), which was administered by intravenous injection at a dose of 80 mg/kg/day for 6 weeks, (3) anti-TGFβ (n=12), which was administered by intravenous injection at a dose of 0.1 mg/kg twice daily for 6 weeks, and (4) PTX + anti-TGFβ (n=12), which was administered by intravenous injection at a dose of 80 mg/kg/day and 0.1 mg/kg twice daily for 6 weeks. At the end of the experiment, all groups were humanely killed and infected organs collected and used for histological and immunohistochemical studies. The level of TGFβ in serum was measured by ELISA.

**Results:** The hepatic fibrosis was significantly reduced in the PTX and PTX + anti-TGFβ treated groups compared to the control group. The inflammation, degree of granuloma, and liver fibrosis were lower in the PTX + anti-TGFβ group compared to the other groups.

**Conclusion:** The combination of PTX and anti-TGFβ treatment significantly reduces hepatic fibrosis in murine schistosomiasis. This combination treatment may be a potential therapeutic strategy for the treatment of hepatic fibrosis associated with schistosomiasis.

PP-192 Immunolocalization of target antigens expressed on different life cycle stages of Fasciola gigantica and different organs of infected cattle

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A polyclonal antibody (pAb) was prepared against Fasciola gigantica excretory secretory (E/S) antigens and purified to demonstrate the presence of highly reactive epitopes on the different life cycle stages of parasite as well as on the different organs of naturally infected cattle. Immunostaining of different life cycle stages of F. gigantica using anti-F. gigantica E/S IgG pAb showed strongly positive reactions in all stages except eggs. The reactions were observed along the tegumental surface, gut region of cercariae, miracidiae, metacercariae and tail of cercariae. In conclusion, localization of E/S products on different stages of F. gigantica and different organs of naturally infected cattle will help in the early diagnosis of fascioliasis.

PP-191 Immunodiagnosis of sheep fascioliasis using a pair of polyclonal antibodies against cathepsin L antigen using Sandwich and Dot-ELISA

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The present study was designed to prepare a pair of polyclonal antibodies (PAbs) (IgG A22 and IgG B12) against Fasciola gigantica cathepsin L (CL1) with immunodiagnostic potential for fascioliasis. Sandwich ELISA and dot-ELISA were performed to detect Fasciola antigens in serum samples collected from a total of 157 sheep. The first PAb was used as antigen capturing Ab and the second as horse peroxidase-conjugated antigen detecting Ab. After separation, gross inspection of liver and parasitological stool examination, sheep were divided into Fasciola positive group (97 sheep), other helminthic infection group (30 sheep) and healthy control group (30 sheep). Fasciola antigens detected in serum of sheep by ELISA showed 94.8% sensitivity and 95% specificity. Dot-ELISA sensitivity was found to be 98.9% and specificity 98.3%. In conclusion, dot-ELISA is a more rapid, easy, sensitive and specific test for diagnosing fascioliasis than sandwich ELISA and is recommended in field study.

PP-193 Protective role of purified cysteine proteinases antigens against Fasciola gigantica in experimental animals

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This work aimed to study the effect of cysteine proteinases (CP) vaccination on both humoral and cellular immune responses in Fasciola gigantica infected sheep. According immunization protocols, sheep were immunized with 4 doses of CP, 2 wks intervals, and one week later they were infected orally with 300 F. gigantica metacercariae. Four groups of sheep were used. The 1st group is normal control, the 2nd group is the immunized group, the 3rd group is the F. gigantica infected group and the 4th group is the immunized F. gigantica-infected group. All sheep were humanely slaughtered 12 wks after the first immunization. The immunized F. gigantica-infected group recorded a significant reduction in worm burden (56.9%, p<0.01), bile egg count (70.7%, p<0.01), faecal egg count (75.2%, p<0.01), IgG2 (p<0.01) and serum level of pro-inflammatory cytokines, IL-12, IFN-γ and TNF-α (p<0.01 and p<0.05, respectively) and a significant increase in the total IgG, IgG4 (p<0.05) and anti-inflammatory cytokines levels, IL-10, TGF-β, and IL-6 (p<0.01) when compared with their corresponding F. gigantica-infected sheep (p<0.05).

**Conclusion:** CP-induced cellular and humoral immune responses were associated with a modest reduction in worm count suggesting that CP immunization might be a safe and cost-effective strategy for reducing transmission of the infection.