

International Conference on Medical Parasitology and Zoology

October 17-19, 2016 Houston, USA

Diagnosis of *Echinococcus granulosus* infection in dogs by immunological and molecular methods

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Echinococcosis, a cyclozoonotic helminthosis caused by the dwarf dog tapeworm *Echinococcus granulosus*, highly endemic and considered to be one of the most important parasitic diseases. The study was undertaken for diagnosis of *E. granulosus* infection in dogs by using immunological and molecular techniques. The specific antibodies of *E. granulosus* were detected in dog serum samples by ELISA. The protein profile by SDS-PAGE with somatic antigen revealed 11 polypeptides ranging between 114 kDa to 16 kDa. The major bands were in the range of 94, 66, 45, 34, 24 and 16 kDa. A total of 12 polypeptides were identified in E/S Ag ranging from 110 kDa to 14 kDa. The major bands included 98, 66, 45, 38 and 34 kDa. The immunoreactive polypeptides detected on western blots with somatic antigen of *E. granulosus* with known positive serum showed 89, 66, 45 and 16 kDa. The E/S antigen of *E. granulosus* showed six polypeptides of size 98, 82, 66, 45, 34 and 24 kDa on blots. The Copro-PCR was carried out using two sets of *E. granulosus* specific primers. The Eg 1f, Eg 1r primer amplified single band of 255 bp which was specific to *E. granulosus* in ten samples which were positive for *E. granulosus* at necropsy. The other primer JB 3f, JB 4.5r which amplified a single band of 440 bp was also specific to *E. granulosus* in ten samples which were positive for *E. granulosus* at necropsy. No amplification was observed in nine fecal samples which were positive for *Taenia* eggs by copro-microscopy.

Biography

Ananda K J has completed his PhD in Veterinary Parasitology from Veterinary College, UAS, India and rendered 12 years of service in teaching and research, specialized in Immunological and Molecular Diagnosis of Parasitic diseases. He is presently working as an Associate Professor and guided four PG students. He has published more than 45 research papers in both international and national journals. He was the recipient of University Gold Medal for PhD and handled 05 research project and presently with two extramural research projects.

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