

PARASITOLOGY

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Local expression of T-cell population in sensitized and unsensitized experimental hydatidosis

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Previous studies have focused mainly on the dominating Th2 cell response in chronic hydatidosis to benefit parasite growth and development. However, the status of the innate and adaptive immune cells and their contributions to *E. granulosus* cyst progression remains inadequately understood especially those related to sensitized hosts. The aim of the present experimental study was to investigate the local cellular patterns of T-cell population, T-helper 1 (Th1), T-helper 2 (Th2), T regulatory (Treg) and T cytotoxic (CD8) in sensitized (immunized) and unsensitized animals (control), infected with *E. granulosus* larval stages using specific immune-histochemical markers (STAT4, GATA3, FOXP3 and CD8) respectively. Significantly higher expression levels were recorded with STAT4 and CD8 in lesions related to sensitized group than control which showed nearly negative expression (95.07 ± 9.51 and 59.73 ± 2.91 vs. 1.36 ± 0.49 and 0.64 ± 0.32 respectively, $P < 0.0001$). On the contrary GATA3 showed significantly lower values in sensitized vs. unsensitized control (39.83 ± 2.01 and 77.94 ± 6.63 respectively, $P < 0.0001$). Therefore, killing of the larval cestodes was through inflammatory and cytotoxic effect related to Th1 & CD8 rather than B cell dependant pathway that is usually established through Th2. These results perhaps signify the reduction of the tolerance response induced by Th2 in immunized group. Therefore, our study strongly conceived the importance of the inflammatory and cytotoxic subset of T-cell population in the protective mechanism against hydatid infection following vaccination. Revealing the profile of these immune cells may help to develop new therapeutic and prophylactic strategies for this serious infection.

Biography

Amany A Abd El Aal has completed her MD degree in Medical Parasitology from Faculty of Medicine, Cairo University in collaboration with NAMRU-3 (Navy American Military Research Unit-3), Abbasia, Cairo, from 1990 to 1995. She is a Professor since 2006 and currently working in Medical Parasitology Department as well as Army Forces of College of Medicine (AFCM). She is a Member of scientific committee responsible for promotion of professor & assistant professor working in the field of Medical Parasitology in Egyptian universities. She has published more than 45 papers, about 20 of them in international journals.

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