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Poster Session II

Toxoplasmosis

A 5-YEAR STUDY OF TOXOPLASMA GONDII INFECTION IN ADULTS, CHILDREN AND PREGNANT WOMEN IN NORTH-WESTERN GREECE

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Objectives: Toxoplasmosis is an important zoonotic parasitic disease with worldwide distribution. Although the course of infection is generally benign, *T. gondii* can cause significant morbidity in the developing foetus and in immunocompromised people. The aim of this study was to determine the incidence of toxoplasmosis in adults, children and pregnant women in North-Western Greece through the evaluation of serological and molecular examination.

Methods: During the last five years, serum samples from 6.427 adults (aged between 17 to 70 years) and children (0 to 16 years) suffering from different clinical entities and 2.185 pregnant women (20 to 40 years) during their pregnancy were tested. Both IgG and IgM anti Toxoplasma antibodies were determined using an immunoenzymatic method (AxSYM Toxo IgM, IgG assay, Abbott Diagnostics). IgM positive sera were further tested by an assay measuring the avidity of IgG specific antibodies (Vidas, Toxo-IgG avidity kit, BioMerieux). Additionally, PCR was performed in subjects with a low avidity IgG antibody index (index<200).

Results: Seroepidemiological study showed that 2507 (39%) adults and children were seropositive with significant differences in incidence between male and female group. Adults and female population were most affected (44.8% and 60.6% respectively). Performing PCR in suspected cases with low avidity result, a primary infection was identified in twenty cases (39.2%). Total incidence of acute toxoplasma infection was 0.31% and there was no statistically significant difference in regard of age group. From adult confirmed cases, 40% were immunosuppressed and 53.3% presented with ocular or neurological complications. Two out of five children (40%), who were born from mothers with confirmed infection, had congenital toxoplasmosis with chorioretinitis and intracranial calcification. The prevalence of IgG-specific antibodies in the pregnant women was 21.74%, while the incidence was estimated to be 0.13%. Analysis of the results were presented in the following table:

	No of cases	Sero positive No (%)	IgG only No (%)	IgG + IgM No (%)	low -avidity result No of suspected cases	PCR (+) result No (%)
Adult	5.013	2.249 (44.86)	2.178 (96.84)	71 (3.16)	42	15 (0.29)
Children	1.414	258 (18.24)	245 (94.96)	13 (5.04)	9	5 (0.35)
Pregnant	2.185	475 (21.74)	419 (88.21)	56 (11.7)	28	3 (0.13)

Conclusions: Toxoplasma infection is an important public health problem affecting adults and children in North-Western Greece with women being exposed to *T. gondii* more than men. Since 78.3% of the pregnant women is at risk of developing acute infection during pregnancy, further efforts are required to provide better prevention strategies. Extended studies should be performed to establish the complete picture of Toxoplasma infection in Greece.