THE INTERPRETATION OF SEROLOGICAL TESTS RESULTS TO NEW BORN BABIES PREGNANCIES ORIGINATED WITH SEROCONVERSION OF TOXOPLASMA GONDII

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Abstract
Objectives: The demonstration of the serological test importance in the diagnosis of the Congenital Toxoplasmosis.
The Method: The serological test was performed through the micro enzymatic immunology technique, on a lot of 87, new born suckling babies. Along with the laboratory investigations the babies were also clinical, oftalmological and neuron-imagistic examined.
Results: The diagnosis of Congenital Toxoplasmosis was confirmed at 29 children – 33.33%, was invalid at 58 children – 66.66%. The IgM+ type serology was encountered at 23 children – 24.73%, confirming the parasitosis. IgM- type serology, IgG+ was encountered at 26 children – 29.85%, of which a lot of 6 children – 23.07% the IgG increases in dynamic confirming the congenital toxoplasmosis. The IgM- type serology, IgG- was encountered at a lot of 38 children – 40.86%, invalidating the parasitosis.
Conclusions: The serological screening is obligatory to the new born babies, originated of mothers with Gondi Toxoplasmosis seroconvertion; all suckling babies with unconclusive IgM-, IgG+ type serology, till age one.
Key words: congenital toxoplasmosis, serological test.

Introduction

The congenital infection with Toxoplasma gondii, a protozoan which parasites over 300 species of vertebrates is one of the most frequent infection of conceiving process result. The contamination and the producing of toxoplasmosis are possible due to the pregnant woman primo infection, which in 80% cases is asymptomatic. (2).

The large volume which occupies the thank infection, the vary paths through which the parasite arrives to the human, makes that till the age of 30, 85% of population to be contemined. The incidence of toxoplasmosis at humans is hard to be established due to the climate variability factor, the living way, the nourishment customs, hygienically level, the high rate of insensible infections.

The maternal toxoplasmosis in not equivalent with the congenital toxoplasmosis, the infection transmission at the conceiving product is not simultaneous to maternal infection, it produces later during to the placental stadium. In the case of maternal prime infection, the fetus infection risk average is 7%, but varies about the date of seroconversion and and grows gradually depending of the pregnancy period. (4). The early track down of maternal infection admits the therapeutically involvement reducing with 50% the risk of transmission and fetal affect. (6).

The history of toxoplasmosis is a process in full procedure, even it is known for a log time like a parasitosis disease with severe evaluative potential at new born babies.

The infestation with toxoplasma gondii of the conceiving produce may occur an abortion, specially in the embryonic period or a complex suffering, congenital toxoplasmosis which could be asymptomatically on an average of 55-80% of cases, but potentially severe ocular and neuro-psihical evaluative or on evolution, severe with postnatal death, congenital malformations (1).

The benign form, asymptomatic congenital toxoplasmosis has only a positive serology, which occurs serious problems on long way, because ineloquence and lack of specific treatment carries on to an evolution of chorioretinitis with the loss of visual acuity. (8).

The early track down of the infection at pregnant woman, of congenital infection has a huge value due to the possibility of the medical and therapeutically involvement, which can slow down or stop the disease evolution. (9).

Through the impressive average of asymptomatically forms both to the woman being at the age of conceiving and also at new born baby, the

foundation of the diagnosis with toxoplasmosis comes to the laboratory methods.

The new born baby's serum may contain antibodies transplacentar transmitted from mother during the pregnancy, IgG type. The exclusion of the toxoplasmosis diagnosis implies, in IgM-, IgG+ cases the track down of the serological evolution of IgG till age of one. The discreasing rate of IgG passively transmitted from mother to fetus is 50% in during 28 days, with its disappearing over 10 months. (3).

IgM is an immunoglobulin which appears in the first days of infection, first week and grows rapidly tending to a maximum serum level, for discreasing in the same time with the evolution of the cronical disease. It negativates after approximately 4-6 months, so regularly IgM cannot be detected in the sick person serum after 6 evolutional months of infection, through standard methods of diagnosis. IgM is considered a marker of the acute infection and of congenital infection at fetus. (5).

IgG appears gradually al the end of the second week of the acute infection, tends maximum values al 6-8 weeks from infection, status still few months, decreases slowly, persists years at a low level, conferring immunity protection. IgG is determined for the establishment of a specific immunity presence. (7)

Materials and Methods

The study was performed on a lot of 87, children with provenience of confirmed seroconvertion mothers. A number of 56, children did not present any symptoms. The clinical manifestation the more frequent met was the neurological ones. The oftalmological evaluation needed both the anterior segment examination, which proved microoftalmological problems and strabismus, and also especially the posterior one which confirmed the presence of chorioretinitis injury.

The serological examination was performed through the microenzymatical immunology technique, MEIA method, About reactive Axsym equipment, which buses a suspended solution, latex particles through the microenzymatical immunology technique, which buses a suspended solution, latex particles of a micron size to measure the analite. The particles are covered with a specific catch molecule, capture type for the analite to be measured. The efficient area of the microparticles surface increases the cinetic component and decreases the incubation time. This allows the MEIA tests to be performed in the less time of the other immunological tests.

At the samples centre, the reactive and the samples for tests are introduced in a reaction tank. This is sent to the processing center where the resctives and samples are incubated to allow to get the reaction temperature. The reactive and the samples are combined, the resulting mixture is transferred in a matrix of inert glass. The irreversible cover with the microparticles drives to an immune complex which is stopped by the glass fibers, in the same time that the mixture rapidly flows through the big fleckles of the matrix. A conjugated mixture alcalino-phosphatic is added at the glass matrix, 4-metilunbeliferil phosphate. The mixture catalyzes the hydrolyze of metilumbriferil phosphate with metilumbeliferil.

The ingathering was performed in the monthly dynamic, till age one, on red colection tube, without anticoagulant.

The interpretation of serological results:

IgM Interpretation

0 < Index IgM <O,500	Negative
0,500 < index < IgM 0,600	Unconcludent
0,600 < Index IgM	Positive

IgG Interpretation

0 < IgG < 2UI/ml	Unimunizied subject
2 < IgG < 5ui/ML	Unconcludent
5 < IgG	Probably immunization, due to the clinic context with the recommendation of repeating it after 2-3 weeks

Results and discussions

Serological supervising of new born babies with seroconversion mothers infirmed congenital toxoplasmosis at a lot of 38 children (IgM-, IgG+, confirms the diagnosis at 23 children (IgM+). The average of negative serology children from seroconvertion mothers represent 40.68% and with positive serology are of 24.73%.

A number of 26 new born babies – 29.58% presented at birth the following situation: IgM-, IgG+.

It must be mentioned the fact that no new born baby with unconclusive serology had any clinical manifestation, the only way to confirm the diagnosis being the serological screening. So, at a lot of 20 children the level of antibodies decreased, till the complete disappearing near one age, infirming the congenital toxoplasmosis. At a lot of 6 children the level IgG grew in dynamic, confirming the congenital parsitosis desease. These represent 23.07% of the total of children with unconclusive serology.

Tabel 1. The serological evolution of new born babies from mothers with toxoplasmosis.

IgM - IgG -	IgM +	IgM - IgG	
		decrease	grow up
38	23	20	6
40,86%	24,73%	21,51%	6,45%

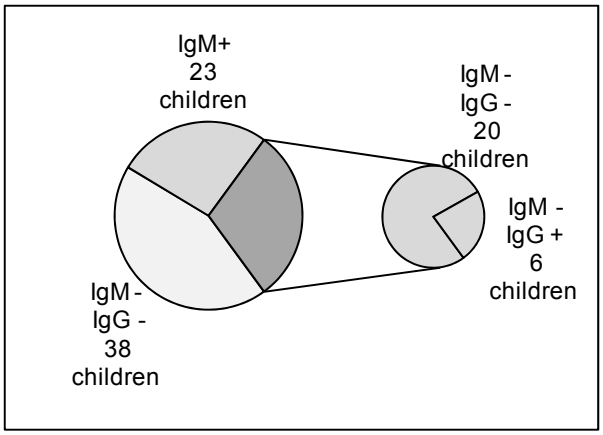

Figure 1. The serological evolution of new born babies from mothers with toxoplasmosis.

At a number of 8 children – 30.76% there was a plane stop on a period of approximately 2 months, which increased supplementary problems of diagnosis and therapy conduct. Among these in 3 cases the level of antibodies decreased, infirming the congenital infection, the others 5 cases – 62.5% proved to be congenital toxoplasmosis.

Tabel 2. Serological evolution of children with IgM -, stationary IgG + for 2 months.

Month		I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
IgG (ui/ml)	case 1	6.5	6.5	6.2	5.7	5.1	4.3	3.2	2.2	1	1	0	0
	case 2	7	6	6	5.6	5.1	5	3.3	2.1	1	0	0	0
	case 3	5.7	5.7	5.1	4.9	3.5	3	2.8	2	1.3	0.8	0	0
	case 4	5.6	5.6	6	6.3	7	7.2	7.2	7.2	7.2	7.2	7.2	7.2
	case 5	7.1	8	8	8.3	8.4	8.5	8.5	8.5	8.5	8.5	8.5	8.5
	case 6	5.8	5.8	6	6.2	6.6	6.5	6.5	6.5	6.5	6.5	6.5	6.5
	case 7	6.5	6.6	6.6	6.8	7	7.1	7.1	7.1	7.1	7.1	7.1	7.1
	case 8	5.8	5.8	6	6.1	6.5	7	7	7	7	7	7	7

A lot of 18 new born babies of the 29 confirmed ones did not have any clinical manifestation, the diagnosis being only serological. In the case of not performing the postpartum serological and monthly examination, in the dynamic during one year the diagnosis and the antiparasite treatment performance would not be possible, the congenital toxoplasmosis, asymptomatically form could pass unobserved in evolution in time guiding an ocular or neurological affect.

The final result of serological investigations to confirm the congenital toxoplasmosis shows there for

that a number of 29 children with parasites of a total of 87 suspicion (33.33%).

Conclusions

The serological examination is the main investigation in tracking down the gondi toxoplasmosis infection.

The serological screening of the new born baby is the on which infirms or confirms the congenital toxoplasmosis diagnosis. And gives the agreement to the institution of the antiparasite treatment.

It is necessary to follow the serological evolution of antitoxoplasma antibodies in the first year of living, because only like this it can be made the difference between the cases with passing antibodies and of those with neositatized, with congenital desease. The excluding of congenital toxoplasmosis diagnosis can be performed only on the negative serology base, through the missing of antibodies mother originated, which wad performed between 8-12 months.

The unfrocking of the asymptomatically congenital toxoplasmosis forms, which represented 62.06% of the total of clinical forms becomes a risk for the installing in time of the chorioretinitis.

The congenital toxoplasmosis must be taken in view within a paraclinical and clinical survey of the new born babies with neurological affects and those with troubles of eyes development, eyes motrical problems.

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