

Toxoplasmosis during pregnancy and infancy

René Stricker, R. Sitavanc, N. Liassine,
F. de Marval

Dianalabs, Geneva, Switzerland

In the Supplement entitled "Toxoplasmosis during pregnancy and infancy" [1], the Swiss Working Group on congenital Toxoplasmosis (SWGt) has recommended the cessation of testing for *Toxoplasma* antibodies before and during pregnancy, arguing the inefficacy of the specific treatment and the low incidence and morbidity of congenital toxoplasmosis in Switzerland. The direct consequences of this decision will be: 1) Women infected by *Toxoplasma* during gestation will not be tested and therefore not treated, resulting in a rise of the incidence of congenital toxoplasmosis; 2) Missed detection of congenital disease by ultrasound alone without serology resulting in additional cases of congenital infection (i.e., chorioretinitis) in newborns; 3) Unknown immune status in pregnant women, 30–50% of whom will follow unnecessary primary prevention measures. A further consequence of this decision will be the irreversible lack of epidemiological data concerning the prevalence of *Toxoplasma* infection and the incidence of congenital toxoplasmosis in Switzerland.

Due to these potential medical consequences, this change of paradigm should be supported by the most relevant epidemiological data – that means recent, complete and on a national scale.

In Switzerland, in spite of recommendations released in 1995 [2], no systematic survey of congenital toxoplasmosis has been conducted to date. Some data are occasionally collected through selective studies, but such a strategy is known to underestimate the actual number of cases [3].

The SWGT claim that the prevalence of *Toxoplasma* infections has decreased and that the incidence of congenital toxoplasmosis is much rarer than initially expected. In order to support its conclusions, it presents data from a study conducted in Basel in 1982–1999 and from a retrospective study conducted in Lausanne (1995–2006), as well as data collected by the Swiss Paediatric Surveillance Unit (SPSU) between 1996 and 1999. Surprisingly, the only recent data (Lausanne) were cited as "personal communication" and have never been published. Moreover, no data were presented from the rest of Switzerland.

We would like to present our data from Canton Geneva for the last 13 years. These data were communicated to the SWGT in September 2008, before the publication of its article.

Results from Geneva

In Geneva, serological diagnosis of *Toxoplasma* infection during pregnancy has been

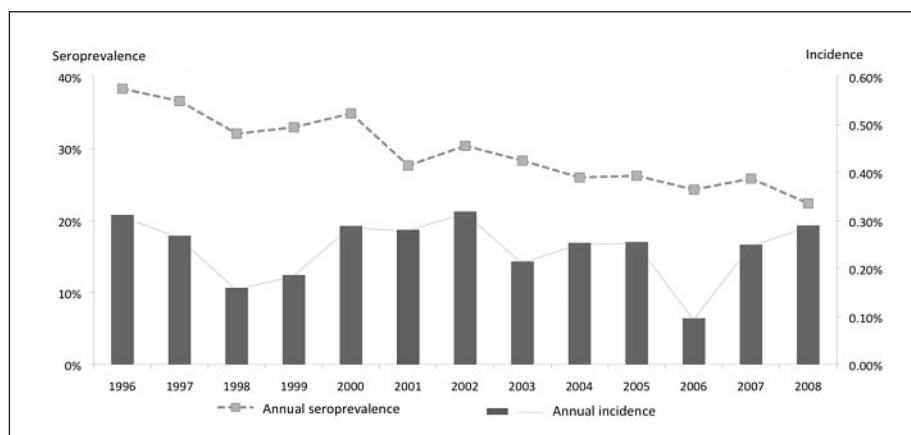


Figure 1

Evolution of the seroprevalence and incidence of toxoplasmosis during pregnancy (Geneva, 1996–2008).

followed for 20 years by Dianalabs laboratory, using a battery of tests which have improved the reliability of results – especially regarding predictive value and estimation of the date of infection [4]. This population study represents 80% of all pregnant women in Canton Geneva.

Our data (fig. 1) show a decrease in the seroprevalence of toxoplasmosis during pregnancy over the past 13 years that confirms the data presented by the SWGT. However, there was no decrease in the incidence of toxoplasmosis during pregnancy in Canton Geneva for the same period. The incidence of infection observed in Canton Geneva was comparable to France [5].

The discrepancy between our results (13 years of continuous surveillance) and the conclusion of the SWGT (presented as the "results of a consensus-finding process") should, at least, be examined: data obtained from outdated and geographically limited studies may not reflect the actual situation of toxoplasmosis in Switzerland. The SWGT proposes following the evolution of congenital toxoplasmosis through two reference centres (to be created in Basel and Lausanne) and through the SPSU reports. However, this appears to be more of a self-reassuring matter than an efficient surveillance system. How will relevant information be collected if the serological status of toxoplasmosis is no longer assessed? How will neonatal chorioretinitis be detected – and treated – if screening is no longer performed? It seems unreasonable to make recommendations on the basis of incomplete epidemiological data. Many studies are being conducted in Europe in order to obtain more relevant data allowing adaptation of national screening policies and evaluation of the efficacy of treatment. During this period, screening is maintained in these countries [6, 7]. In France, a surveillance system for congenital toxoplasmosis was implemented in 2007 in order to provide valid prevalence data for congenital toxoplasmosis and to follow the impact of the na-

tional prevention program [8]. Denmark has stopped *Toxoplasma* screening only on the basis of data obtained from a nationwide neonatal screening program conducted in 1999–2007.

The decision to cease *Toxoplasma* testing in Switzerland is supported neither by valid data nor by the results of European studies. This new strategy will lead to the missed diagnosis and treatment of children, particularly newborns with chorioretinitis.

We invite the SWGT to consider data obtained from other cantons in Switzerland, and to wait for the results of the ongoing European studies before defining a new strategy. In the meantime, and in accordance with the above considerations, it would be reasonable to maintain a minimum of two screening tests: the first one at the beginning of pregnancy, the second before term. This approach would at least allow follow-up of newborns at risk of symptomatic congenital toxoplasmosis and completion of data on the incidence of *Toxoplasma* infection during pregnancy.

References

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Correspondence:

René Stricker

Scientific Director

Dianalabs

6, Rue de la Colline

CH-1205 Genève

E-Mail: renestricke@dianalabs.ch

Authors' reply

In the introduction to their letter, the authors create a distorted picture of the background of the new recommendation of the Swiss Working Group on congenital Toxoplasmosis (SWGTT).

1. There is in fact no evidence at all that screening and therapy during pregnancy is useful – both in combination do not have any impact on vertical transmission rates of toxoplasmosis or on morbidity in infected children.
2. There is no need for intrauterine detection of congenital toxoplasmosis, as there is no way to treat such fetuses during intrauterine life.
3. Given the quality of the health system in our country, symptomatic children with congenital toxoplasmosis will be recognized according to the symptoms with which they present.
4. It does not make sense to screen for toxoplasmosis during pregnancy just to allow 30% of pregnant women to eat raw or un-

dercooked meat during pregnancy – habits which represent the most important way of transmission of the parasite.

As eating habits and hygiene standards play the most important role regarding toxoplasmosis epidemiology, the three surveys endorsing our new recommendation are most likely representative for the whole of Switzerland. Given the identical results from the two cord blood screening programs in the regions of Lausanne and Basel and the nationwide SPSU surveillance, a difference between Lausanne and Geneva, as argued by the authors, seems extremely unlikely. The SWGTT strongly believes that available epidemiological data are fully representative for the country as a whole.

It is well-recognized, that diagnosis of acute toxoplasmosis during pregnancy has to be based on very stringent criteria, and there has to be either a proven seroconversion or a fourfold rise of antibody titres. IgM/IgA alone or a low avidity of the antibodies are not sufficient to establish the diagnosis of an acute toxoplasmosis during pregnancy. It would therefore be crucial to describe the exact criteria on which the calculation of the annual incidence of acute toxoplasmosis during pregnancy in Geneva was based. This information is unfortunately missing. As a reference is also missing, these data have most likely not been published either.

By the way, an official screening has never been recommended for Switzerland, not even in 1995, when the old recommendation was released. The pregnancy screening performed in Switzerland has always been a wild screening, permitting no final conclusions from collected data, as denominators have always been missing. Furthermore, those involved in counselling pregnant women with questionable test results during pregnancy, have experienced a large number

of wrong interpretations of test results and the extreme fears and sorrows associated with such situations.

To perform a test in early pregnancy just to identify those who are at no risk would not change anything, and many confusing interpretations of such tests would again lead to follow-up testing and in extreme cases even to a decision to terminate healthy pregnancies.

The decision of the SWGTT to maintain some ongoing, well established surveillance was not taken due to doubts about the new recommendation but to continue to generate some data in the near future that will help to deal with and to sort out uncertainties inevitably associated with this radical change in paradigm.

Finally and most importantly, the SWGTT as a group of experts on toxoplasmosis is free from any financial or other interest to perform or not to perform any test. Its ultimate goal is not to do harm, and accordingly to avoid unnecessary interventions and fears, and to base its recommendations exclusively on the best available evidence. Against this background, as outlined in its new recommendation, the SWGTT strongly recommends strengthening primary prophylaxis and no screening for toxoplasmosis during pregnancy (i.e., omitting secondary prophylaxis).

Christoph Rudin and Patrick Hoblfeld
Members of the Swiss Working Group on
congenital Toxoplasmosis
Federal Department of Home Affairs
FDHA
Federal Office of Public Health FOPH