

EDITORIAL

TOXOPLASMA : SHUTTING THE BARN DOOR AFTER THE HORSE RAN OFF ?

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Atallah D. Toxoplasma : Shutting the barn door after the horse ran off ? J Med Liban 2010 ; 58 (1) : 1-2.

Toxoplasmosis is a prevalent chronic infection around the Mediterranean basin with a worldwide distribution in about a third of the world population [1]. It affects all vertebrates and is transmitted via the oral route after ingestion of food contaminated by the fecal matter of cats and dogs (fruits and vegetables) or of raw meat (spores).

Toxoplasma gondii has been reported for the first time in 1908 but the mode of transmission remained a mystery until 1970 when the complete cycle was discovered.

Actually, two modes of division have been reported : a sexual mode in feline hosts and an asexual mode in intermediate hosts (man, sheep) [2].

The reservoir in intermediate hosts lies in muscular, lymphatic, and nervous tissues. In the immunocompetent host, this infection is of no consequence. However, the parasite lying in these tissues remains alive and can be reactivated in case of immunodepression. In the pregnant nonimmunized woman, this parasite invades the placenta and secondarily the fetus. Only 0.1% of the world population are infected *in utero*.

Toxoplasma screening programs vary from one country to another. The only two European countries that have instituted a screening program of the parasite in the pregnant woman are France and Austria. In these countries, every pregnant woman should be screened for toxoplasmosis [3-4].

Seroprevalence is very high in France due to the ingestion of raw meat (70-90%). Seroprevalence is low in the United States, where there is no screening program for toxoplasma.

In India, toxoplasma has a lower prevalence than in France. However, there was no difference between vegetarians and non-vegetarians. Actually, this is mainly due to the presence or absence of the parasite in the soil and in vegetables that could contaminate the livestock and the edible fruit and vegetables [2].

In Lebanon, toxoplasma is endemic [1, 5]. A study has shown that 80% of the street cats of Beirut were contaminated. An infected cat implies an infected soil, infected vegetables, infected sheep, and « cat piss in our plates ». In our daily practice, we find a good prevalence of this parasite in newly pregnant women in whom the screening test is done. Lebanon is a country that is in constant cultural contact with France. French is widely spoken and many physicians have studied or specialized in France. Those physicians have followed the French recommendation of toxoplasma screening, knowing full well that the Lebanese health system has no recommendations about toxoplasma screening in pregnancy.

In this issue, Bouhamdan et al. [5] have studied the seroprevalence of this parasite in women by age group in the various laboratories of Beirut. They found that seropositivity increased with age, reaching 91% in women older than 51. In spite of this high prevalence, few things have been done at the level of national public health concerning this issue. The test isn't even mandatory prior to marriage.

These figures indicate that contamination is less frequent at the very beginning of the reproductive age of the Lebanese female, but it increases « as she eats ». Which leaves us to conclude that the gynecologist should always be alert in these women of reproductive age who are newly pregnant.

We can avoid seroconversions with a good policy of alimentary hygiene. The parasite does not resist to temperatures exceeding 70° Celsius. Deep freezing for more than 48 hours kills the parasite.

In his daily practice, the obstetrician should teach the seronegative woman to wash her hands properly before eating, to wash fruit and vegetables properly and to peel them well (antiseptic solutions are available, some wash with vinegar, etc.). Meat should be well cooked. The consumption of raw vegetables in restaurants should be prohibited. No contact with street cats, no contact with the fecal matter of domestic cats. Wear gloves to touch soil, sand, and wild grass to avoid potential contamination with cat feces.

As one can see, this makes life hard for the seronegative pregnant woman, more so that she will have to undergo monthly serologic testing to detect any seroconversion. In the United States where this parasite is rare, seroconversion with IgM elevation has no particular value because of the possibility of a false positive reaction (cross reaction with other antibodies).

In a country where the parasite is endemic, it is therefore worthwhile to screen and to insist on issuing strict

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national guidelines. There isn't to this day a single recent epidemiologic study on that subject in Lebanon. The paper of Bouhamdan et al. [5], even though simple and with modest means, has brought to our attention an endemic problem long-neglected by the health authorities.

In Lebanon, a rigorous screening policy should follow, as with the recommendations for premarital tests. Hence, each woman should know her toxoplasma serology status before marriage. The scenario of seroconversion during pregnancy should therefore become an exception, thanks to a rigorous health policy, and should be managed in specialized centers.

Screening is an effective means that allows us to palliate our therapeutic shortcomings. Having said that, make sure to shut the barn door before the horse runs off !

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