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A Novel Scientific Finding: Relationship between Food-Borne *Toxoplasmosis* and Car Accident

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Scientists have recently revealed that there might be a relationship between driving accident's problems, especially in the elder people with one of the important food-borne diseases named toxoplasmosis which is caused by *Toxoplasma gondii* (1, 2).

This food-borne disease is highly prevalent, worldwide. In Iran, the prevalence of this disease was reported to be 30-40 percent among the general population. Based on the life cycle of this parasite, its frequency is higher in warm regions compared with cold areas. For example, in Isfahan the parasite has a prevalence of 43 percent; whereas, in Ardabil the prevalence is about 18 percent. Moreover, the prevalence of toxoplasmosis is low in desert and semi- desert areas such as Zahedan and Yazd. It is reported that more than half of the people living in Tehran city are infected with *Toxoplasma gondii*, (3).

The infection symptoms occur in only 15 percent of the infected people, including sore throats, headaches, submental swollen lymph nodes, myalgia, and fever. In the immunocompetent individuals, the symptoms usually reduce after a few days (4), however, the tissue cyst will remain in their brain, eyes, and muscular tissues. Recent studies indicated that the presence of the tissue cyst disrupt the neurotransmission in the brain followed by neurological diseases. In addition, patients with chronic diseases have increased amounts of dopamine that results in behavior change and slow reactions which might cause the traffic road accidents when driving (5, 6).

Toxoplasma gondii parasite infects human beings in several ways, including consumption of unwashed fruits and vegetables, cooked or semi-cooked meat and liver. Another important way for transition of this parasite is drinking goat milk (7). The infection rate of goat milk in Iran is around 10 percent (3). Other infection routes include contacting with stray cats, whole

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blood transfusion, and transition from placenta to infect fetus. The best medications are pyrimethamine and sulfadiazine for 3 to 4 weeks in general population and spiramycin in pregnant women (8).

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References

1. Galván-Ramírez M, Sánchez-Orozco LV, Rodríguez LR, et al. Seroepidemiology of Toxoplasma gondii infection in drivers involved in road traffic accidents in the metropolitan area of Guadalajara, Jalisco, Mexico. Parasites & Vectors .2013; 6(1):294.
2. Gohardehia Sh, Sharifc M, Sarvia Sh, et al. The potential risk of toxoplasmosis for traffic accidents: A systematic review and meta-analysis. Experimental Parasitology. 2018; 191:19-24.
3. Daryani A, Sarvi Sh, Aarabi M, et al. Seroprevalence of Toxoplasma gondii in the Iranian general population: A systematic review and meta-analysis. Acta Tropica. 2014; 137: 185-194.
4. Flegr J, Havlícek J, Kodym P, et al. Increased risk of traffic accidents in subjects with latent toxoplasmosis: a retrospective case-control study. BMC Infectious Diseases.2002; 2(1):11.
5. Flegr J, Klose J, Novotná M, et al. Increased incidence of traffic accidents in Toxoplasma-infected military drivers and protective effect RhD molecule revealed by a large-scale prospective cohort study. BMC Infectious Diseases.2009; 9(1):72.
6. Flegr J, Dama M. Does the prevalence of latent toxoplasmosis and frequency of Rhesus-negative subjects correlate with the nationwide rate of traffic accidents?. folia parasitologica. 2014; 61 (6): 485–494.
7. Stepanova EV, Kondrashin AV, Sergiev VP, et al. Significance of chronic toxoplasmosis in Epidemiology of road traffic accidents in Russian Federation. PLoS one. 2017;12(9):e0184930
8. Foroutan-Rad M, Khademvatan Sh, Majidiani H, et al. Seroprevalence of Toxoplasma gondii in the Iranian pregnant women: A systematic review and meta-analysis. Acta Tropica. 2016;158: 160-169.

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Conflict of interest

None declared

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