LETTER TO THE EDITOR
ASSOCIATION BETWEEN STATIN USE AND INCIDENCE OF BREAST CANCER

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LIST OF ABBREVIATIONS: : *BC: Breast cancer, CI: Confidence Interval.*

Dear Editor,

Breast cancer (BC) is the most common cancer in women. A total of 252,710 new cases and 40610 deaths from BC occurred in women in the United States in 2017. The risk of BC was 12.5% in the American women's lifetime[1]. The pathway and risk factors for this cancer have not been fully diagnosed. Obesity and overweight, family history of BC, genetic factors, environmental factors, low physical activity, and exposure to chemical are among the diagnosed BC risk factors[2,3]. A lot of studies have been planned to identify substances with a chemopreventive potential against breast cancer. The pharmaceutical group of Statins is widely prescribed in the world with the aim to prevent cardiovascular events and stroke.

The protective effects of Statins have been proven against the onset of some cancers. However, controversial results[4] have been observed in studies on the effects of Statins on the incidence of BC, so that some separate investigations have considered Statins as the protective agents[5,6], as risk factors[7-9] and neutral[10]. There is not any definitive conclusion on the effects of Statins on the risk of BC. Undoubtedly, the results of meta-analysis studies can be helpful in this regard. Several meta-analysis researches on this field have not found any significant relationship between Statin use and the increase or decrease in the BC risk, so that the relative risk of BC in the treatment group compared to the control group was obtained equal to 0.94 (CI of 95%, 0.86-1.03) in the research by Islam et al[11], equal to 1.02 (CI: 95%, 0.95-1.09) in research by Qi-Jun et al[12], equal to 0.99 (CI of 95%, 0.94-1.04) in study by Undela et al[4], and equal to 1.02 (CI of 95%, 0.89-1.18) in study by Bonova et al[10]. According to a research by Islam et al[11], the relative risk of BC was equal to 0.94 (CI of 95%, 0.70-1.28) for those who received Statins for 5 years or less and equal to 0.74 (CI of 95%, 0.52-1.04) for those who received Statins for over 5 years[11].

Furthermore, there was not any significant difference between Statins and the risk of BC in different parts of the world, so that the relative risk of BC in the treatment group compared to the control group was equal to 0.85 (CI of 95%, 0.41-1.52) in Asia, 1.01 (CI of 95%, 0.97-1.05) in Europe, 1.13 (CI of 95%, 0.44-2.92) in Oceania, and 0.92 (CI of 95%, 0.84-1.02) in the United States[11]. Therefore, based on the results of meta-analysis studies, which

provide the highest level of scientific inferences, the use of statin does not significantly increase or decrease the risk of BC in recipients. Furthermore, the incidence of BC does not depend on the duration of Statin use and the geographical area of residence. Consequently, statins can be used in prevention of cardiovascular diseases and stroke without any worry about the increased risk of BC.

CONFLICT OF INTERESTS:
The Authors declare that they have no conflict of interests.

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