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Letter to Editor

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The relationship between Statins and the risk of lung cancer

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1. Dear editor in chief

Lung cancer is the leading cause of death from cancer. There are annually around 1600000 of new cases and more than 1400000 deaths from this disease worldwide. Lung cancer accounted for 26% of death from cancer in females in the United States in 2012 and 29% of death from cancer in males [1]. Statins are known as the most commonly prescribed drugs worldwide. Statins are usually used as the cholesterol-lowering drugs. The recent studies have proved the benefits of Statins in reducing the mortality and incidence of cardiovascular disease and stroke [2].

Newman and Hulley conducted a review study on the relationship between fat reducing drugs and the risk of cancer. In this study, they found that Statins might increase the risk of cancer in recipients, and in fact, they suggested that Statins might be carcinogenic [3]. However, several observational and experimental studies indicated the beneficial and protective effects of Statins on the incidence of cancer [4,5]. The relationship between Statin use and the risk of lung cancer has been studied in a number of studies. However, results of these studies are controversial. In these circumstances, the meta-analytic studies can be useful and helpful in combining results of studies and confirming or rejecting the association between Statins and the risk of lung cancer. According to a meta-analytic research by Wang et al based on 20 experimental and observational studies, the relative risk (RR) of incidence of lung cancer was equal to RR= 0.89 (CI of 95%, 0.78-1.02) in the subjects who received Statins compared with the control group [6]. According to another meta-analytic study by Tan et al based on 19 studies on the relationship between Statin use and the risk of lung cancer, the risk of lung cancer in the Statin group was equal to RR=0.89 (CI of 95%, 0.77-1.03) compared to the control group. In this study, the estimated relative risk was equal to RR= 0.91 (CI of 95%, 0.76-1.09) for randomized clinical trials (RCTs), RR=0.82 (CI of 95%, 0.57-1.16) for case-control studies, and RR=0.94 (CI of 95%, 0.82-1.07) for Cohort studies [7]. Consequently, according to results of meta-analysis studies, there is not significant association between Statins and the risk of lung cancer; therefore, the Statin use does not increase or decrease the risk of lung cancer.

2. Open Access

3. List of abbreviations

CI: Confidence: Confidence Interval; **LC**: Lung Cancer; **RCTs**: Randomized Clinical Trials; **RR**: Relative Risk

4. Competing interests

The authors declare that no competing interests exist.

5. Ethics approval and consent to participate

Not to be applied

6. Funding

Not to be applied

7. Authors' contributions

All authors contributed to the design of the research, HS and FAB, extracted the data and summarized it. All authors drafted the first version. KAB and AMH edited the first draft. All authors reviewed, commented and approved the final draft.

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