



# Preventive effects of statins on the incidence of liver cancer

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Effects, Liver Cancer, Prevention, Statin

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## Dear Editor-in-Chief

Liver cancer is considered as one of the most common cancers in the world, so that it is ranked fifth in males and sixth in females in the world causing high annual costs to patients, the health system and society (Ferlay et al., 2015). The worldwide mortality rate of this disease is rising annually. This disease also has a very high fatality, so that 88% of patients in USA (Miller et al., 2016) and 90% of patients in China (Zeng et al., 2015) die of this disease in the first 5 years of its diagnosis. Therefore, it is essential to identify factors which protect against this disease. The protective effects of Statins against the cardiovascular diseases, stroke and heart attack has been proven (Tobert, 1996). Recent studies have found that Statins can also have protective effects against the cancers (Yi, Song, Wan, Chen, & Cheng, 2017). Several meta-analysis studies have explored the relationship between Statin receiving and the risk of developing liver cancer by application of randomized clinical trials, and found that the use of Statins significantly reduces the risk of liver cancer.

The Relative Risk(RR) of liver cancer in Statin-treatment group compared with the control group was equal to RR=0.63 (Confidence interval (CI) of 95%, 0.52-0.76) in research by Singh *et al.* (Singh, Singh, Singh, Murad, & Sanchez, 2013), RR=0.58 (CI of 95%, 0.51-0.67) in research by Shi *et al.* (Shi, Zheng, Nie, Gong, & Cui, 2014) and RR=0.58 (CI of 95%, 0.46-0.74) in a study by Pradelli *et al.* (Pradelli *et al.*, 2013). Recently, Changhong *et al.* conducted a meta-analysis research based on Cohort studies on the dose-response relationship between the Statin receiving with incidence of liver cancer.

This study found that the relative risk of liver cancer was decrease equal to RR=0.86 (CI of 95%, 0.81-0.90) with an 50% increase in daily dose of received Statin during a year (Yi *et al.*, 2017). Therefore, based on the results of meta-analysis studies, which provide the highest level of scientific inferences, it can be argued that Statins can have protective effects against the incidence of liver cancer. Furthermore, according to the proof of dose-response relationship between the received Statin and the incidence of liver cancer, the observed relationship can be considered as a causal association.

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## Abbreviations

**CI** :Confidence Interval

**RR**: Relative Risk

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