

Statins may increase the risk of thyroid cancer in women

Statins are the most effective lipid lowering agents used for primary and secondary prevention of cardiovascular disease through many mechanisms, working by inhibition of 3-hydroxy-3-methylglutaryl coenzyme A reductase. (1)

According to many observational studies statins have shown decreasing effects on many types of cancers (including colorectal, breast and prostate cancer). But a new study shows a surprising result suggesting that statins may increase the risk of thyroid cancer in women but not in men. (2)

The first study published in July 2014 was a controlled population based case done by Taiwanese researchers. It included 500 patients, ages starting from 40 years old and above, the patients were previously diagnosed with thyroid cancer and in the study they were matched with 2500 controls. (4) (5)

The study compared two groups of patients one who used statins regularly and the other used it irregularly, the OR for both groups was 1.40 and 1.35 respectively. But the difference between men and women in the study was more obvious as the association between regular use of statins and thyroid cancer was clearly higher in women (2328 women) than men (672 men) with OR 1.43 and 1.28, respectively. (3) (5)

Even though the mechanism is still unknown as the researchers suggested that "It is possible that in female subjects, the cancer-protective effects of statins are neutralized due to relatively higher estrogen levels than in males". However, they also conceded that "this hypothesis remained unproven". (4)

The second study published in September 2014 was case controlled suggesting that the immunosuppressive properties of the statins are the main cause to induce thyroid cancer. (6)

On the other hand, researchers also pointed out that more research with a larger patient population is needed to be sure of any existing association. They also recommended that female patients under regular statin - use and their physicians should keep this potential risk of subsequent thyroid cancer development in mind. (3)(4)

In conclusion: some studies demonstrated that statins are associated with thyroid cancer but nevertheless, further studies are needed to emphasize these findings.

Done By: pharm.Ds:

Mai abu libda, leena manaysah, kawthar kurd.

Reviewed By: pharm.D: Neda Rwashdeh

References:

- 1- Robert S Rosenson, MD. Statins: Actions, side effects, and administration. Oct 16, 2014.
http://www.uptodate.com/contents/statins-actions-side-effects-and-administration?source=search_result&search=statin&selectedTitle=1~150#H30.
- 2- Dr. David Jaun .The Dangers of Cholesterol-Lowering Statin Drugs. September 29th, 2014
<http://www.doctorshealthpress.com/cancer/risks-of-statin-drugs-and-thyroid-cancer>.
- 3- Dan Cook. Statins Increase Thvroid Cancer Risk in Women. November 20. 2014.
<http://www.pharmacylearningnetwork.com/articles/statins-increase-thyroid-cancer-risk-women>.
- 4- Nancy Walsh. Do Statins Up a Woman's Risk for Thyroid Cancer? Nov 5, 2014.
<http://www.medpagetoday.com/Endocrinology/Thyroid/48416>.
- 5- Hung SH1, Lin HC, Chung SD. Statin use and thyroid cancer: a population-based case-control study. *Clinical Endocrinology*. 2014 Jul 30.
- 6- Sayer Ji, Founder. Statin Drugs Linked to Thyroid Cancer in Women .September 14th 2014
<http://www.greenmedinfo.com/blog/statin-drugs-linked-thyroid-cancer-women>.