

Statin dose may affect development of osteoporosis



The diagnosis of osteoporosis in people treated with statins is dose-dependent.

INTRODUCTION

Most people lose bone density as a normal part of ageing. Osteoporosis is a condition where a person's bone density is reduced, making their bones fragile and more likely to fracture (break). Hip, wrist and spine (back) fractures are the most common types of fracture in people with osteoporosis.

Risk factors for developing osteoporosis include age, weight, family history, intake of caffeine or alcohol, and smoking, as well as other health conditions and medicines.

Statins are a type of drug used to treat and prevent cardiovascular diseases by reducing cholesterol. Some studies have also suggested that statins might have a positive effect on bone health.

WHAT DID THE AUTHORS HOPE TO FIND?

The authors wanted to look at the relationship between statin treatment and osteoporosis. They were especially interested in whether there is a link between the dose of statins that people take, and their risk of osteoporosis.

WHO WAS STUDIED?

The study looked at almost 8 million people in Austria. Of these, 350,000 people had been treated with statins for over 1 year, and over 80,000 had osteoporosis. A smaller group of 11,700 people had medical records showing that they were both using statins, and had osteoporosis.

HOW WAS THE STUDY CONDUCTED?

This was a cross-sectional retrospective analysis of the entire Austrian population using their medical records. This means the authors used existing databases of patient records to look back and find people for each group. The study used the records for people taking statins, and those who were diagnosed with osteoporosis. The authors then broke the information down according to the dose of statin that people were using, and worked out a risk of osteoporosis in each group.

WHAT WERE THE MAIN FINDINGS OF THE REVIEW?

The authors found that there was a link between osteoporosis and the statin dose people were taking. People taking a low-dose (0–10 mg) of simvastatin or rosuvastatin were 30% less likely to be diagnosed with osteoporosis. People taking a high dose (40–60 mg) of a statin such as simvastatin were 64% more likely to be diagnosed with osteoporosis than people not taking a statin at all.

The authors tested their results to see how robust they were. This was done by excluding people with diseases such as cardiovascular disease or diabetes that are commonly treated with statins. They found that the results were the same.

ARE THESE FINDINGS NEW?

Yes, this is the first study to look at the relationship between statin treatment and osteoporosis in detail.

WHAT ARE THE LIMITATIONS OF THE STUDY?

One of the major limitations is the way the study is designed, and its reliance on medical records. This means the authors were only able to see people's current dose of statin, and could not take into account any higher or lower doses used in the past, or people's other risk factors for osteoporosis.

WHAT DO THE AUTHORS PLAN ON DOING WITH THIS INFORMATION?

The authors are currently planning more studies in order to help back up the results.

WHAT DOES THIS MEAN FOR ME?

These results say that statins at higher doses could be linked to developing osteoporosis, but that a low dose might be protective. If you are taking a statin, it is very important that you do not stop taking your medicine or change your dose without speaking to your doctor. If you are at high risk of developing osteoporosis, and you need to take a high-dose statin, your doctor might monitor your bone health.

If you have any concerns about your disease or its treatment, you should speak to your doctor.

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