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Red yeast rice appears to lower blood cholesterol and triglyceride levels, but it is not certain whether these products are safe to use.

Red yeast rice is a traditional Chinese medicinal product that also has culinary uses. It is made by culturing rice with specific strains of yeast. It is also marketed as a dietary supplement to reduce cholesterol and other fats in the blood. One of its constituents, monacolin K, also known as lovastatin, is an active ingredient in the cholesterol-lowering drug, Mevacor®. The drug works by inhibiting an enzyme essential for the creation of cholesterol in the body. Therefore, it is assumed that red yeast rice works through a similar mechanism.

Even though red yeast rice appears to reduce blood fats, it is not certain whether these products are safe. Some may contain a harmful contaminant or have side effects similar to certain cholesterol-lowering drugs. There have also been several case reports of adverse effects, so patients should discuss any use of this product with their healthcare provider.

What are the potential uses and benefits?

- To lower high cholesterol

A few clinical trials show that the use of red yeast rice can reduce cholesterol and triglyceride levels in the blood, but it is not certain whether these products are safe.

What are the side effects?

- Stomach ache
- Dizziness

- Flatulence
- Heartburn
- Muscular disease resulting in muscle weakness

Case reports

- Allergic reaction
- Elevated liver enzymes
- Liver injury, hepatitis
- Unexpected high cholesterol
- Skeletal muscle weakness and damage
- Erectile dysfunction

What else do I need to know?

Patient Warnings:

- Citrinin, a toxic fermentation byproduct, has been found in a number of red yeast rice preparations.
- Grapefruit juice may increase the effects of red yeast rice.

Do Not Take if:

You are taking cholesterol-lowering drugs: Red yeast rice supplements contain variable amounts of monacolin K, the active ingredient in lovastatin. Side effects and interactions can be comparable to statin drugs, and long-term safety data is lacking.

You are taking CYP450 3A4 or P-glycoprotein substrate drugs: Lab studies show that red yeast rice extracts may affect drugs metabolized by these enzymes. Clinical relevance has yet to be determined.

Special Point:

The U.S. Food and Drug Administration declared that the dietary supplement Cholestin, manufactured by Pharmanex, cannot be marketed as a dietary supplement because it contained lovastatin, a prescription drug.

If you have questions or concerns, contact your healthcare provider. A member of your care team will answer Monday through Friday from 9 a.m. to 5 p.m. Outside those hours, you can leave a message or talk with another MSK provider. There is always a doctor or nurse on call. If you're not sure how to reach your healthcare provider, call 212-639-2000.

For more resources, visit www.mskcc.org/pe to search our virtual library.

Red Yeast Rice - Last updated on February 3, 2023

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