



Red Yeast Rice

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Through the fermentation of rice with *Monascus purpureus* yeast, one obtains the supplement known as red yeast rice (RYR). RYR contains many potent monacolins including monacolin K also known as mevinolin, which is identical to the statin drug lovastatin (statin drugs are the most common prescription medicines in America and include Lipitor, Zocor, Pravachol, etc). Thus it is easy to see why RYR is the most potent nutritional supplement available for reducing cholesterol. RYR contains 10 monacolins, plant sterols including beta-sitosterol and isoflavones, which all add to its cholesterol lowering, anti-inflammatory, and anti-cancer effects. Most RYR extracts contain 0.4% monacolin K, and therefore at the usual dosage of 1200 mg per day will be equivalent to 4.8 mg of lovastatin, and at 2400 mg per day equivalent to 9.6 mg per day of lovastatin.

By far most people take RYR for its cholesterol lowering effects, which are unquestioned by any authority. On average one can expect at the low (1200mg) to high (2400mg) dosages a 23-32% reduction in LDL (“bad”) cholesterol, a 13-23% reduction in triglycerides and a neutral overall effect on HDL (“good”) cholesterol. Just as importantly a reduction in the inflammatory marker known as highly sensitive C-reactive protein (hsCRP) of 20-40% can be expected. Chronic inflammation explains the strong link between coronary artery disease, dementia and cancer, thus the reduction of inflammation by RYR may explain its effectiveness more so than its cholesterol lowering properties. After only 90 days of therapy RYR has been shown to decrease angina and prolong exercise time on the treadmill before inducing ischemia (low blood flow). Other clinical trials document that RYR prevents the negative effects of a high fat meal on arterial blood flow. Put in simple terms RYR improves vascular tone. In the only long term (4 year) trial of RYR in type 2 diabetic patients, the clinical outcomes were nothing short of amazing. Overall RYR vs. placebo led to a 44% reduction in all-cause mortality, a 64% reduction in non-fatal MI and a 58.5% reduction in fatal MI.

When, why, and how to treat high cholesterol is a long and individualized question. Like any test result that comes back abnormal, we need to question why first. The answers usually lie within dysfunctions occurring in the areas of stress, exercise and diet (see Foundations for Health). If you and your healthcare professional decide that lifestyle intervention is not enough then the question of how intense to treat comes next. The most important next step is to determine if you have coronary artery disease (CAD) with a cardiac calcium score (a CT scan of the coronary arteries to quantify calcific plaquing), and assess other cardiac risk factors such as diabetes, smoking, hypertension, homocysteine, hsCRP, Lp(a), and fibrinogen. Based upon your overall health, any

history of cardiac or cerebrovascular events, and the above tests, one can determine if you should treat your high cholesterol. The marketing of fear has swept across our country and made nearly everyone believe that high cholesterol is always a problem. It can be a problem; the idea that it is always a problem is the way to sell you very expensive and often dangerous medicines. If one chooses to treat cholesterol, shoot for an LDL/HDL ratio of 2:1 for prevention of, and 1:1 in the treatment of CAD. A good trig/HDL ratio of <2:1 is also a good idea.

Let's cover some common controversies and misconceptions. First of all, anyone who thinks they are sensitive to yeast can take this product as it has no relation to *Candida* species. The next and more important concerns regard safety, standardization, and side effects. The FDA no longer allows standardization to monacolin K as this they believe would be like allowing an unlicensed drug on the streets. So if you purchase RYR, do so only from a company you trust. Also, have your physician order lab tests for you (lipid panel, AST, ALT, CPK) every 3-4 months to ensure efficacy and safety. Once you're sure that your labs are stable, testing every 6-12 months is acceptable if you stay with the exact same brand of RYR - do not assume therapeutic equivalency among different brands.

Statin drug induced myopathy (muscle damage) is a controversial subject, and this syndrome can occur with RYR as well. To prevent side effects with RYR one should always take at least 100 mg of CoQ10 per day as a supplement (this is even more important if you are taking a statin drug). In my extensive clinical experience using RYR, I find of those people unable to tolerate statins, 5% cannot tolerate RYR. In the "normal" population, I rarely ever see side effects with RYR. "Experts" say that RYR is a statin, but that is not true; it contains a statin. Taking the most active ingredient (monacolin K = lovastatin) from a complex herbal milieu, is referred to in natural medicine as "extracting the intelligence while leaving the wisdom behind". Many components of the RYR are important for its activity and prevention of toxicity, a fact lost among those who don't understand natural medicine.

It is important to note that if you are a man with documented CAD, statin drugs are a first line therapy, if tolerated, independent of your initial cholesterol level. Statins have never been shown to improve overall mortality in women, even in those with documented CAD. I do consider RYR to be an amazingly safe and effective herbal approach to lowering cholesterol, but monitoring for safety, as discussed, should be stringently adhered to by anyone taking this "drug-like" herb. If you take other medicines, potential interactions with RYR should be discussed with a knowledgeable healthcare professional. I look forward to more studies on this potentially life-saving supplement. In the meanwhile, if you desire to lower LDL cholesterol without a prescription medicine, RYR is the herb of choice.

Your Journey to Health and Healing,
Gary E. Foresman, MD

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