

Progesterone and Heart Health

Although heart disease is sometimes thought of as a man's disease, cardiovascular disease is the #1 cause of death for women; in 2006, 315,930 women died from it. Nine out of ten heart disease patients have at least one risk factor. Several medical conditions and lifestyle choices can put women at a higher risk for heart disease, including:

- High cholesterol Cigarette smoking
- High blood pressure Overweight and obesity Diabetes Physical inactivity
- Poor diet Alcohol use

However, the importance of hormone balance should not be overlooked.

It is rare that a premenopausal woman dies of a heart attack, though the incidence of cardiac mortality among older women eventually matches or exceeds that of males. It was once thought that the difference was due to a lack of estrogen after menopause. Estrogen can, after all, improve a woman's lipid profile, and has the cardiovascular benefit of relaxing the blood vessels which can protect against heart attack. However, when estrogen levels are too high its protective value in heart disease is reversed as the risk of blood clots and fluid imbalances rises. It is known that progesterone deficiency down-regulates estrogen receptors and sufficient progesterone up-regulates estrogen receptors, resulting in more estrogen action without changing the amount of estrogen already present. Progesterone seems to be the key player.

We know that progesterone levels after menopause are almost zero. Estrogen, on the other hand, falls only 40-60% with menopause. According to John Lee, MD, lipid profiles improve when progesterone is supplemented. Progesterone increases the burning of fats for energy and, in addition, has anti-inflammatory effects, both cardio protective actions. Progesterone protects against blood clots due to excess estrogen. Progesterone protects the integrity and function of cell membranes, whereas estrogen allows an influx of sodium and water while allowing loss of potassium and magnesium.

Several studies have illustrated the importance of progesterone in protecting heart health. Bioidentical progesterone has been shown to inhibit arterial smooth muscle cell proliferation, both in type II diabetics and in otherwise healthy individuals. Coronary hyperreactivity (vasospasm) in rhesus monkeys was shown to be prevented by subphysiological doses of progesterone. An additional study examined exercise-induced myocardial ischemia in patients taking estrogen/medroxyprogesterone acetate versus estrogen/bioidentical progesterone. The combined estrogen/progesterone supplementation increased exercise time to myocardial ischemia as compared to estrogen/MPA.

Supplementing with bioidentical hormones, rather than conjugated equine estrogens and synthetic progestins, is essential, as also illustrated by the Women's Health Initiative. Their findings suggest that Estrogen + Progestin does not protect the heart

and may even increase the risk of coronary heart disease (CHD). Overall, there was a 24% higher risk of CHD among women in the E+P study compared to women taking placebo. The women in the WHI were taking one tablet containing conjugated equine estrogens (0.625 mg) and medroxyprogesterone acetate (2.5 mg) each day (Prempro).

Optimizing the progesterone/estradiol ratio can go a long way in improving cardiovascular health, so remember to include a complete hormone analysis with all of your cardiovascular patients.

References

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