

Study Links Fibromyalgia to Metabolic Disease

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TUCSON, Ariz – Patients with fibromyalgia or chronic fatigue syndrome may be at greater risk for metabolic disease, new research shows.

Barbara Loevinger, M.D., at the University of Wisconsin's Center for Women's Health & Research, recently studied this risk and determined a significant association between the occurrence of fibromyalgia syndrome (FMS) and metabolic syndrome (MBS).¹ Elizabeth Maloney, Ph.D., of the Center for Disease Control in Atlanta, also found an association between chronic fatigue syndrome (CFS) and MBS.²

Some of the diagnostic parameters of metabolic syndrome are high levels of cholesterol and triglycerides, a larger-than-normal waistline, insulin resistance (type 2 diabetes), and elevated blood pressure. All of these signs are risk factors for developing cardiovascular disease.

With MBS, the elevated cholesterol and triglycerides contribute to high blood pressure, while the ability to use insulin to regulate glucose levels is impaired. The excess glucose is converted to fat (such as triglycerides) and typically gets stored around the midriff. Ironically, increased fat interferes with the muscle's ability to use insulin to draw glucose into the cells, which could make it harder to exercise. A lack of activity further impairs the muscle's ability to consume glucose. The result is decreased energy to the muscles, increased conversion of glucose to fat, elevated blood pressure, and a malfunctioning glucose or insulin resistance system.

For her study, Loevinger recruited 109 FMS patients and 46 controls. Weight and body mass index did not significantly differ between the women with fibromyalgia and the control group. The patients were "fairly high functioning" averaging 37 years of age.

She hypothesized that increased activation of the sympathetic nervous system and reduced adrenal function, which have both been documented in fibromyalgia patients, may set the stage for metabolic syndrome in women with FMS.

Loevinger found that women with FMS were 5.5 times more likely than healthy controls to have MBS. In fact, 20 percent of the FMS patients met the criteria for MBS. Looking at this subgroup of patients, Loevinger found that their sympathetic system was dominant while their adrenal output was weak compared to the FMS patients who did not meet the criteria for MBS.

Referring to her findings, Loevinger says that MBS in women with fibromyalgia was not due to increased weight or inactivity, and concluded, "fibromyalgia per se ... may be a risk factor for MBS."

1. Loevinger BL, et al. *Metab Clin Exp* 56:87-93, 2007.

2. Maloney E, et al. IACFS Research Conference, Ft Lauderdale, January 2007.