POSTMENOPAUSAL STATUS IS INDEPENDENTLY ASSOCIATED WITH ADVANCED HEPATIC STEATOSIS: THE DALLAS HEART STUDY

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Background: Postmenopausal status is associated with increased cardiometabolic risk, although the mechanisms are not fully delineated. Hepatic steatosis appears to be a marker of increased atherosclerotic risk. Whether postmenopausal women have increased prevalence of hepatic steatosis is unclear.

Methods: Women aged 30-65 from the Dallas Heart Study (DHS), a multiethnic population-based sample, with information regarding menopausal status were included in the study. Hepatic fat content was measured by magnetic resonance spectroscopy (MRS), and a previously defined cut point (>5.5%) was used to characterize hepatic steatosis. Multivariable adjusted associations between menopausal status and hepatic steatosis were assessed.

Results: Among the 1018 women included in this study, 48% were postmenopausal, and these women were older (55 vs. 37 years) and had increased systolic blood pressure, total cholesterol, triglycerides, fasting glucose and C-reactive protein (CRP) compared with premenopausal women (p<0.0001 for each); no difference was observed with smoking status or body mass index (BMI). Postmenopausal status was associated with an increased prevalence of hepatic steatosis (34% vs. 24%, p<0.0001), as well as an increased absolute hepatic triglyceride content (4.0% vs. 2.9%, p<0.001). This association was maintained across age strata (30-40 and 40-50 yrs). There was also a graded association between time from last menstrual period (LMP) and prevalence of hepatic steatosis when divided into 3 groups (LMP < 2 months, LMP 2-12 months, and LMP>12 months; p trend<0.001). In multivariable analyses adjusting for age, race, lipids, smoking, blood pressure, diabetes, HOMA-IR, CRP and BMI, postmenopausal status remained independently associated with hepatic steatosis (OR 2.0, 95% CI 1.1-3.6).

Conclusions: Postmenopausal status is independently associated with the prevalence of hepatic steatosis in women. The cardiovascular implications of increased hepatic fat among postmenopausal women require further study.