



Australian Association of Musculoskeletal Medicine

Serum Lipids and Low Back Pain: An Association?: A Follow-up Study of a Working Population Sample.

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Study Design. Cohort study with 5-, 10-, and 28-year follow-up.

Objectives. To examine associations between baseline serum lipid concentrations and later low back pain (LBP).

Summary of Background Data. Atherosclerosis of the lumbar vessels has been suggested as a mechanism leading to disc degeneration and LBP. Cholesterol is considered essential for atherosclerosis development.

Methods. A sample (n = 902) of employees in an engineering company was examined for serum total cholesterol and triglycerides, body mass index (BMI), smoking, exercise, work history, and LBP in 1973. By November 2000, 232 subjects had died. In 1978, 748 (84% of the survivors), in 1983, 654 (76%), and in 2000, 546 (81%) responded to a follow-up questionnaire.

Results. In men, baseline serum total cholesterol predicted new cases of radiating LBP in the 5-year follow-up (highest tertile vs. lowest: odds ratio [OR], 2.5; 95% confidence interval [CI], 1.1-5.9) and in the 10-year follow-up (OR, 2.8; 95% CI, 1.3-6.1), adjusted for age, occupational class, work history, BMI, smoking and exercise. Also, serum triglycerides predicted new cases in the latter examination (OR, 2.6; 95% CI, 1.2-5.8). In women, no associations were seen until the 10-year follow-up, when their results were similar to those in men. In the total material, serum total cholesterol predicted radiating LBP reported both at the 10- and the 28-year follow-up.

Conclusions. High serum lipids predicted incident radiating LBP, consistent with the atherosclerosis-LBP hypothesis.