

Exercise Affects Adipokine Biomarkers in Breast Cancer Patients

Sturgeon *et al.* _____ Page 1195

Physical activity protects against breast cancer, possibly by inducing changes in adipokine levels. The WISER Sister Trial was a three-armed randomized controlled trial in which exercise intervention and adipokine levels were monitored in premenopausal women at increased risk of breast cancer. In this study, Sturgeon and colleagues observed significant linear trends for increased fitness capacity, increased body fat–adjusted adiponectin levels, decreased fat tissue-to-total tissue mass, and decreased body fat–adjusted leptin levels. This important study demonstrates that improved adipokine levels, achieved by aerobic exercise training, may help decrease breast cancer risk for high-risk premenopausal women.

Oral Health and Nasopharyngeal Carcinoma

Liu *et al.* _____ Page 1201

The association between oral health and risk of nasopharyngeal carcinoma (NPC) is largely unknown. Further understanding could shed light on potential pathogenic mechanisms and preventive measures. Liu and colleagues conducted a population-based case–control study in southern China using a structured questionnaire inquiring about oral health indicators and potential confounding factors. A higher number of filled teeth was associated with an elevated risk of NPC and a borderline significant positive association was detected with earlier age at first adult tooth loss, suggesting that improved oral hygiene might contribute to reducing NPC risk.

Biologic Pathway Effects on the Predictive Value of Germline Variants

Qian *et al.* _____ Page 1208

Although genome-wide association studies (GWAS) have identified many genetic variants associated with lung cancer, these variants have low penetrance and are poor predictors of lung cancer in individuals. To increase the predictive value of germline variants, Qian and colleagues evaluated the cumulative effects of genetic variants in the context of biologic pathways. Compared to typical binomial prediction models, the pathway-based multinomial model significantly improved prediction performance. The authors propose pathway–exposure interactions as potentially powerful new contributors to risk inference.

Ultra-Long-Chain Fatty Acids and Colorectal Cancer Risk

Perttula *et al.* _____ Page 1216

Cross-sectional studies have reported a novel set of hydroxylated ultra-long-chain fatty acids (ULCFAs) that are present at lower levels in colorectal cancer cases, compared to controls. Perttula and colleagues measured ULCFA levels in prediagnostic serum from incident colorectal cancer cases and controls. Levels of eight ULCFAs were compared between cases and controls with paired *t* tests and a linear model that used time to diagnosis (TTD) to determine whether case–control differences were influenced by disease progression. Paired *t* tests detected significantly lower levels of four ULCFAs in colorectal cancer cases, but the case–control differences diminished significantly with increasing TTD (7 days to 14 years). This work indicates that ULCFA levels are unlikely to represent exposures that protect against colorectal cancer.