Cancer Epidemiology, Biomarkers & Prevention

Highlights

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Selected Articles from This Issue

Prediagnostic Mammographic Density and Tumor Location

Pinto Pereira *et al.*_____Page 1718

Although mammographic density is a strong marker of breast cancer risk, it is unclear whether tumors arise specifically within dense breast tissue. Pinto Pereira and colleagues studied 231 British women diagnosed with breast cancer and assessed whether tumor location was related to localized mammographic density 5 years prior to diagnosis. Tumor locations, identified on digitized diagnostic films, were aligned with serial images obtained from the same woman before diagnosis. The authors report that prediagnostic mammographic density was higher in areas that subsequently contained tumors. This work supports a model in which tumors predominantly arise within radiodense breast tissue and suggests that localized mammographic density may be a predictor of subsequent tumor location.

Bladder Cancer Molecular Markers

Eissa *et al.* _____Page 1657

To uncover new biomarkers for bladder cancer, Eissa and colleagues retrospectively analyzed the methylation status of the *RARβ2* and *APC* genes in urine samples from bladder cancer patients. The authors report that the methylation of these two genes was higher in cancer patients compared with healthy controls. Methylated *RARβ2* and *APC* were found in all bladder cancer grades and stages. These studies suggest that methylated *RARβ2* and *APC* might represent valuable urinary molecular markers for the early detection of bladder cancer.

ABO Genotype and Gastric Cancer

Nakao *et al.*_____Page 1665

Previous studies, using serotype-derived blood typing, have shown an association between *ABO* blood type and gastric cancer. In this study, Nakao and colleagues further explored this association using single-nucleotide polypeptide analysis to evaluate *ABO* blood genotype and the risks of gastric cancer, atrophic gastritis and *Helicobacter pylori* infection. They report a significant association between *ABO* genotype and gastric cancer risk. In addition, the study revealed that *ABO* genotype may also influence atrophic gastritis prevalence and *H. pylori* infection.

Microsomal Epoxide Hydrolase Genotype and Cancer Risk

Lee *et al.* _____Page 1673

The microsomal epoxide hydrolase enzyme (mEH), encoded by *EPHX1,* has an established role in the detoxification of smoking-induced oxidative substances. Lee and colleagues explored the association between two *EPHX1* polymorphisms and cancer risk in a large Danish population. In these studies, 47,000 individuals were genotyped and divided into groups with predicted fast, intermediate, and slow mEH phenotypes. The authors then evaluated the risks of several cancer diagnoses and found that individuals with predicted intermediate and slow mEH activities were at higher risk of tobacco-related cancers, compared with subjects with fast mEH phenotypes. This work represents one of the largest studies testing the hypothesis that genetically lowered mEH activities are associated with cancer risk.