Grandmaternal Perinatal Serum DDT and Granddaughter Early Menarche and Adult Obesity

Cirillo et al. | Page 1480

The pesticide DDT is still used despite being an endocrine disruptor causing multi-generational harm in animals. Cirillo, La Merrill and colleagues used data from 3-generations of humans in the Child Health and Development Studies cohort. They report that grandmothers’ perinatal serum DDT levels were linked directly to obesity ($N=258$ triads) and earlier first menstrual periods ($N=235$ triads) in young adult granddaughters. These associations remained significant independent of body mass index in the second generation. Given obesity and early first menstrual period are risk factors for various cancers, ancestral DDT disruption may lead to higher risk of cancers in the current generation of young adults.

Integrating Electronic Health Record, Cancer Registry, and Geospatial Data to Study Lung Cancer in Asian American, Native Hawaiian and Pacific Islander Ethnic Groups

DeRouen et al. | Page 1506

A data source sufficient to examine lung cancer incidence and risk factors by smoking status among Asian American, Native Hawaiian, and Pacific Islander (AANHPI) females has not been available. DeRouen and colleagues describe development of a large, multilevel resource linking electronic health record data from healthcare systems with high AANHPI representation to cancer registry and geospatial data. The resource comprises 2.2 million adults, including 250,053 AANHPI females across eleven AANHPI single and multi-racial/ethnic groups. Prevalence of never-smoking among AANHPI females with lung cancer varied widely across ethnic groups. Integrative data approaches are valuable for prospective cancer research among small populations.

Epigenetic Biomarkers of Prenatal Tobacco Smoke Exposure are Associated with Gene Deletions in Childhood Acute Lymphoblastic Leukemia

Xu et al. | Page 1517

The causes of acute lymphoblastic leukemia (ALL), the most common childhood cancer, remain largely unknown. In this study of 482 B-cell ALL patients in California, Xu and colleagues used epigenetic biomarkers of prenatal tobacco smoke exposure to examine the association with gene deletions in diagnostic leukemia samples. Increased prenatal smoking exposure, as measured by DNA methylation at $AHR$ Cpg cg05575921 and by a polyepigenetic score, was associated with a higher frequency of gene deletions. These findings support that tobacco smoke exposure in early life may have leukemogenic effects on developing B-cells, and warrant further studies into the molecular mechanisms involved.

Longitudinal Evaluation of Neuromuscular Dysfunction in Long-term Survivors of Childhood Cancer

Rodwin et al. | Page 1536

Treatments for childhood cancer can cause neuromuscular dysfunction including impaired strength, sensation, and balance. Rodwin and colleagues estimated the prevalence and cumulative incidence of neuromuscular dysfunction in 25,583 survivors and 5,044 siblings from the Childhood Cancer Survivor Study. Neuromuscular dysfunction was 9.9 times more prevalent in survivors than siblings, had affected 24.3% of survivors by 20 years post-diagnosis, and was associated with adverse health and socioeconomic outcomes. Associated adverse outcomes included obesity, lower educational attainment, and emotional distress. Continued surveillance and better interventions to prevent and treat neuromuscular dysfunction are needed in survivors of childhood cancer.
Selected Articles from This Issue

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