Cancer Epidemiology, Biomarkers & Prevention

Highlights

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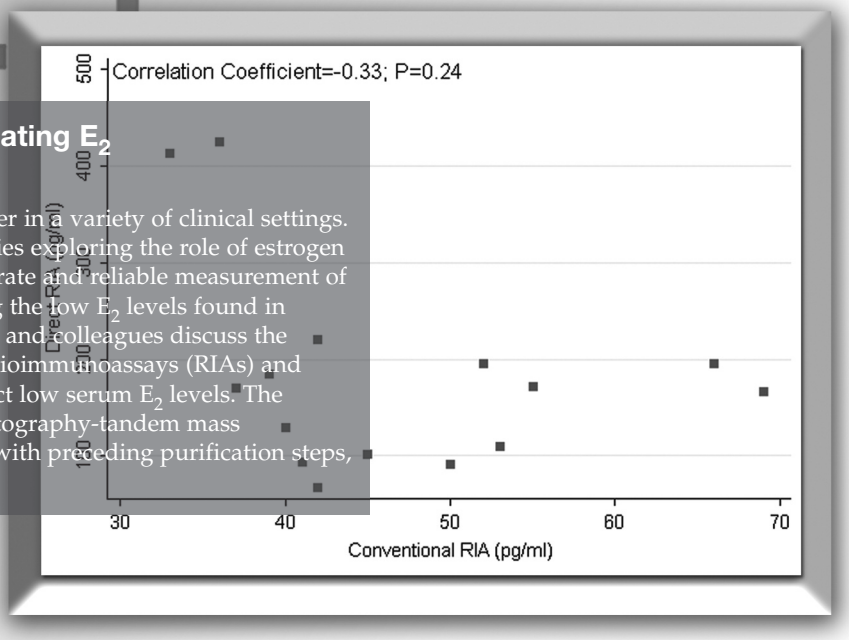
Selected Articles from This Issue

Recommendations for Measuring Circulating E_2

Stanczyk *et al.* _____Page 903

Serum estradiol (E_2) is used as a diagnostic biomarker in a variety of clinical settings. Specifically, E_2 measurements are often used in studies exploring the role of estrogen in hormone-related cancers and conditions. An accurate and reliable measurement of E_2 is critically important, especially when measuring the low E_2 levels found in elderly men and postmenopausal women. Stanczyk and colleagues discuss the specificity and sensitivity limitations of direct E_2 radioimmunoassays (RIAs) and demonstrate the unreliability of these assays to detect low serum E_2 levels. The authors recommend the use of liquid or gas chromatography-tandem mass spectroscopy or conventional RIAs, in combination with preceding purification steps, for accurate and reliable E_2 measurement.



Cancer Biomarker Reproducibility

Kotsopoulos *et al.* _____Page 938

The use of biomarkers as indicators of exposure often requires that a single biomarker measurement accurately reflects an individual's exposure. Unfortunately, the temporal stability and variation of many blood and urine biomarkers have not been determined. To fill this knowledge gap, Kotsopoulos and colleagues evaluated the reproducibility of over 80 different blood and urine biomarkers using specimens collected from participants in the Nurses' Health Study over the course of 1 to 3 years. Using intraclass correlation coefficients, the authors report that for the majority of the biomarkers they evaluated, a single measurement can reliably estimate average levels over a 1- to 3-year period.

Variability of Stress and Inflammation Biomarkers

Wu *et al.* _____Page 947

F_2-isoprostane and its major metabolite (15-F_{2t}-IsoP-M), as well as leukotriene E_4 and prostaglandin E_2, are four potential urinary biomarkers for oxidative stress and inflammation. Wu and colleagues evaluated the intra-person variation of these four biomarkers by examining four urine samples from 48 randomly selected study participants over the course of one year. The authors report that each of these biomarkers displayed low intra-person variation during the year-long study period, indicating their future utility as reliable biomarkers for oxidative stress and inflammation.

Pooling Biomarker Data

Key *et al.* _____Page 960

Pooling biomarker data from several different studies is a valuable tool, allowing researchers to make robust estimates of cancer risk for a particular biomarker. Ideally, standardized methods would have been used by each pooled study so that the biomarker data can be used in their original units. This ideal however, is often not realistic. In this issue, Key and colleagues present an approach that allows pooling biomarker studies even when they do not use standardized methods to measure biomarker levels. The technique uses study-specific quantiles or percentage increases and can provide substantial information on the relationship between a biomarker and cancer risk.

Highlights of This Issue

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