BIOSTATISTICS SEMINAR

HCC Risk Assessment for Patients with Hepatitis C: An Outcome Model-free Scoring System Approach

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Abstract

Modern genomic technologies have generated a large number of biomarkers for early-phase detection and prognosis of diseases. A major challenge is how to identify informative biomarkers to construct a score system for predicting the likelihood of developing diseases. In this talk, I will introduce a class of time-dependent receiver operating characteristic based methods to (1) evaluate the risk prediction ability of individual biomarkers; (2) formulate a candidate pool of risk factors based on the results from (1); and (3) construct a score system that combines informative biomarkers and other baseline information. The proposed methods bypass the need to model the outcomes, and can be extended to accommodate data from complex clinical trial designs (e.g., nested case-control design). Theoretical properties (e.g., selection consistency and asymptotic normality) of the proposed estimators are established. We apply the method to data from the Hepatitis C Antiviral Long-term Treatment against Cirrhosis (HALT-C) Trial.

The Johns Hopkins Bloomberg School of Public Health, Department of Biostatistics, Monday, Monday, January 26, 12:15-1:15, Room W3008, School of Public Health (Refreshments: 12:00-12:15)

Note: Taking photos during the seminar is prohibited

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