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Title:

Recursive partitioning for effect heterogeneity in dose-response relationships

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Key Words:

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Abstract:

Subgroup analysis plays an important role in epidemiological and medical research. The effect of a continuous treatment or exposure on a prespecified outcome can be modeled by a dose-response function. Due to effect modification this effect may vary substantially between different subgroups defined by additional patient characteristics. In this talk a binary recursive partitioning algorithm is proposed to identify these subgroups. In particular, dose-response functions are estimated by fitting a generalized linear model. Effect heterogeneity is detected by analyzing coefficients corresponding to an interaction term between dose and a subgroup indicator. Numerical examples illustrate the results.