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An approach for constructing survival tree based on combination of covariates. (English)
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Summary: We propose a new approach for constructing a survival tree which is used to analysis of time
to event data. The construction of survival tree is performed by the classification and regression tree
algorithm, which constructs a tree model by recursively dividing the data. In the traditional approach,
internal-node data are divided by a splitting rule which consider only one covariate for each node.
In the proposed approach, two or more combinations of covariates are considered for dividing the internal-
node data in the algorithm. We show that the proposed method is more suitable than the traditional
approach in some situations through the comparative research by simulations. We also present the result
of an actual analysis based on proposed approach.

MSC:
62N01 Censored data models
62P10 Applications of statistics to biology and medical sciences; meta analysis

Keywords:
survival tree; CART; splitting method