ESTIMATION IN A MODEL OF RECURRENT EVENTS IN THE PRESENCE OF A TERMINAL EVENT AND INDEPENDENT CENSORING

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In clinical and epidemiological studies, subjects may experience recurrent events, such as myocardial infarctions. The recurrence of such serious events is often associated with a high risk of death with the consequence that subjects may die during the study. For each recurrence, the death and the infarctions are treated as competing risks. We focus on the cause-specific distribution function of the duration time between two successive infarctions, and on the cause-specific distribution function of the duration time between an infarction and death, both conditional on having survived the previous occurrences. We consider nonparametric estimation for these functions, in the presence of independent right-censoring. We show the consistency of these estimators and investigate through simulations their small sample properties.