

Parametric model to analyse the survival of gastric cancer in the presence of interval censoring

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ABSTRACT

Aims and background. The objective of the study was to assess the impact of prognostic factors on survival of patients with gastric cancer in the presence of interval censoring using parametric models.

Methods and study design. In a retrospective cohort study, 178 patients with gastric cancer were studied from February 2003 to January 2008. Gender, age at diagnosis, distant metastasis, tumor size, histology type, tumor grade, lymph node metastasis and pathologic stage were selected as prognostic and entered in the models. Weibull, exponential, log-logistic and log-normal analyses with interval censoring were performed as parametric models, and Akaike Information Criterion (AIC) was used to compare the efficiency of models.

Results. The risk of death for patients at an older age, with tumor size greater than 35 mm, distant metastasis and advanced stage of disease was statistically higher. Other clinical and demographic factors were not significant. According to AIC, the log logistic model is the most efficient of all the models in multivariable analysis.

Conclusions. The results indicated that the early detection of a cancer at a young patient age and in primary stages is important to increase survival from gastric cancer. According to statistical criteria, a parametric model can also be a useful statistical model to find prognostic factors in the presence of interval censoring. Although it seems that all models in this analysis fit well, AIC supported the log logistic regression as the best option. Free full text available at www.tumorionline.it

Key words: gastric cancer, interval censoring, parametric model.

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