Reviewer's report

Title: Long-term survival rates of laryngeal cancer patients treated by radiation and surgery, radiation alone, and surgery alone

Version: 1 Date: 12 November 2004

Reviewer: GIOVANNI FRANCHIN

Reviewer's report:

1. Title. The title is misleading because, although the main topic is the validation of the lognormal model for prediction of long-term survival rates, the authors seem to focus the attention on results instead of the method.

2. Background.
   a) The authors suggest the use of lognormal method for clinical trials in order to predict long-term survival rates earlier than by Kaplan-Meier method. The authors should clarify for which type of “Clinical trials” (i.e.: randomized Clinical trials?) their method would be more appropriate. Moreover, they should use caution stating the selection of treatments from predictive models, and competitive risks should be taken into account.
   b) The authors seem to have previously applied this method to calculate survival rates for several cancers with a good prognosis (i.e.: cancer of the prostate, breast, small cell lung cancer). Do the authors consider this method applicable in estimating survival rates for other neoplasms with a worse prognosis?

   a) In the introduction, the number of patients for each treatment should be reported, i.e. radiation and surgery (n=248), radiation alone (n=345), and surgery alone (n=314).
   b) Phase 1. It is well known that the power of the Chi-square test for log-normality is related to the sample size. This issue should be discussed in the Methods section, highlighting the minimum number required.
   c) Phase 1. The last sentence of the paragraph should direct the attention to the probability of obtaining different distributions (1-p) instead of the same ones (p).
   d) Phase 2. Since the method itself seems to be the core of the manuscript, a comprehensive description of the validation phase should be reported in the text rather than in the appendix.
   e) Phase 2. To provide estimates on the long-term survival rates, the model employs the information derived from a short-term follow-up (5 years). The authors should specify the criteria used to delimit the length of follow-up. For instance, could the model give the same results if a three-year follow-up were adopted? In other words, is there a limit (years) below which the model would not be predictive?

4. Discussion
The discussion is poor. In particular, the authors should discuss the limitations of the method, i.e., sample size, test’s power, and type of neoplasms.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

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What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article of limited interest

Quality of written English: Acceptable

Statistical review: No

Declaration of competing interests:

I declare that I have no competing interests’.

Giovanni Franchin, MD