広島統計談話会

Hiroshima Statistics Study Group

第 246 回談話会を下記にように開催致しますので

御参集下さいますようご案内申し上げます。

You are cordially invited to the 246th meeting as scheduled below.

日　時：　　　　2009 年 1 月 23 日（金）15:00 –
Date　：　　　　Jan 23, 2009 (Fri) 15:00 –

場　所：　　　　放射線影響研究所　講堂
Place　：　　　　RERF Auditorium

演　者：　　　　モハッマド ドキ　原爆放射線医科学研究所 計量生物研究分野博士課程
Speaker　：　　Mohammad Dokhi
　　　　　　　　Ph.D. Candidate, Research Institute for Radiation Biology and
　　　　　　　　Medicine, Hiroshima University

演　題：　　　　「Weibull-Gamma-Frailty 生存治癒モデルと神経芽細胞腫の予後因子に
　　　　　　　　関する調査への応用」
Title　：　　　　「A Cure Weibull-Gamma-Frailty Survival Model and Its Application
　　　　　　　　to Exploring the Prognosis Factors of Neuroblastoma」

要　約：
Abstract　：

The log rank test and the Cox regression, or modifications thereof, emphasize the effect of covariates on survival rate parameter. In some cases, cured individuals, i.e., individuals who may not experience the event of interest may exist in the population of interest. In this situation, we may wish to examine the effect of covariates on both survival rate and cured fraction parameters. Motivated by the Japanese neuroblastoma dataset, we consider a cure model that accounted for the effect of covariates on both of the abovementioned parameters. To deal with heterogeneity that is not explained by covariates, as well as individual random heterogeneity, we perform a frailty variable. Moreover, some nested models are fitted to deal with the principle of parsimony. The effect of covariates was then evaluated by the best nested model. From a statistical point of view, we found that the model of analysis is flexible and adequate to describe the abovementioned dataset. From a medical point of view, we confirmed AGE and $STAGE$ to be the most dominant prognosis factor of neuroblastoma. We also conclude that $NMYC$ and $FERRITIN$ are the others most important prognosis factors. The present model of analysis is also potentially extendable to facilitate other aspects of inferences.