Title

Group Sequential Analysis based on RMST

Abstract

It is appealing to compare survival analysis based on restricted mean survival time (RMST), since it generates a clinically interpretable summary of the treatment effect, which can be estimated nonparametrically without assuming restrictive assumptions such as the proportional hazards assumption. However, there are special challenges in designing and analyzing group sequential study based on RMST, because that the truncation timepoint of the RMST in the interim analysis often differs from that in the final analysis. A valid test controls the unconditional type one error has been developed in the past. However, there is no appropriate statistical procedure for constructing the confidence interval for the treatment effect measured by the contrast in RMST, while it is crucial for informative clinical decision making. In this talk, I will review some important design issues for study based on RMST. I will then discuss how to conduct hypothesis testing and how to construct confidence intervals for the difference RMST in a group sequential setting. Examples and numerical studies will be presented to illustrate the method.

Professional Biography

Lu Tian is currently Professor at the Department of Biomedical Data Science, Stanford University. Dr. Tian obtained his Doctor of Science degree at Harvard University at 2002, and joined the Department of Preventive Medicine, Northwestern University until 2007. Dr. Tian research interest is survival analysis, clinical trial, precision medicine and meta analysis. Dr. Tian has served as Associated Editor for Biometrics, Statistics in Medicine and Chance.

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For interested participants

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