広島統計談話会

Hiroshima Statistics Study Group

第 269 回談話会を下記の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 269th meeting as scheduled below.

日　時：　2012 年 5 月 11 日（金）15:00 –
Date　：　May 11th, 2012 (Fri) 15:00 –

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

演　者：　三角　宗近　博士 (放射線影響研究所　統計部　研究員)
Speaker　：　Munechika Misumi, Ph.D.
Research Scientist, Department of Statistics, Radiation Effects Research Foundation

演　題：　「放射線疫学研究におけるリスク推定値への線量不確実性の影響について」
Title　：　“Effect of radiation dose uncertainty on the risk estimate in radiation epidemiological studies”

要　約：

Summary:

Radiation dose of subjects in A-bomb survivor study were estimated with errors, mainly due to the uncertainty in individual location and shielding information at the time of bombing. It is well-known that the risk estimate obtained by a regression using a covariate with measurement error can cause a systematic bias, mostly, toward null. Most of the studies at Radiation Effects Research Foundation (RERF) applied a regression calibration to deal with so-called classical type error assuming a multiplicative error model. The classical error is considered as an error due to the uncertainty of the location and shielding information of survivors at the time of bombing. However, allowing for some facts that averaged transmission factors of shielding are assigned to subjects who lack a detailed shielding history in calculating radiation dose estimates based on the DS02 dosimetry system, errors in exposed radiation dose should be considered as a mixture of classical and Berkson-type errors. Although Berkson-type error has often received less attention, an effect of Berkson-type error with multiplicative error model is known to cause a bias away from null. In this study, the effect of ignoring Berkson-type error will be demonstrated and approaches to correct the bias will be discussed. Although the conventional use of grouped data in RERF seems to make it difficult to directly apply measurement error models to the problem of dose uncertainty, this study is expected to induce interest of the proactive application.