Contribution ID: **78** Type: **poster preferred**

Dose-response curves for Portuguese population: Chromosomal aberrations and Micronuclei assays

Tuesday, 16 October 2012 16:09 (1 minute)

The main aim of a radiation study is to assess the risk of the population exposed to ionizing radiation. The work of the dose assessment may be very difficult because dose information about the population exposed is often indirect and incomplete. It is very important, therefore, to find a way to estimate reasonable and reliable doses of the population by a retrospective method such as biological dosimetry.
Damage from occupational or accidental exposure to ionizing radiation is usually assessed by monitoring chromosome aberrations, in particular dicentrics chromosomes and micronuclei. The dicentric chromosome analysis is considered as the mainstay on the evaluation of biodosimetry. The dicentric assay can be reckoned as a sensitive method in comparison with other biodosimetric methods; the experimental procedures are rather practical and accurate even though microscopic observations are time-consuming. The cytokinesis blocked micronucleus assay is already validated to perform dose assessment and also to be used as a triage tool, since it's easier and faster to evaluate samples.
Both dicentric and micronuclei yield have linear-quadratic relationships with dose, enabling the correlation between dose exposure and biological effects to DNA. We performed dose-response calibration curves for both endpoints in order to estimate radiation dose in case of accidental radiological occurrences.
It's very important that the response to a large-scale radiological event can be given as quickly as possible. So the creation of a network like RENEB (Realizing the European Network in Biological Dosimetry) is of utmost importance. The existence of a biological dosimetry calibration curve in our country allowed us to be part of such a network.

Primary authors: Ms ANTUNES, Ana Catarina (Instituto Tecnológico e Nuclear, Instituto Superior Técnico, Universidade Técnica de Lisboa); Dr MONTEIRO GIL, Octávia (Instituto Tecnológico e Nuclear, Instituto Superior Técnico, Universidade Técnica de Lisboa); Ms MARTINS, Vanda (Instituto Tecnológico e Nuclear, Instituto Superior Técnico, Universidade Técnica de Lisboa)

Presenter: Dr MONTEIRO GIL, Octávia (Instituto Tecnológico e Nuclear, Instituto Superior Técnico, Universidade Técnica de Lisboa)

Session Classification: Poster Session 1

Track Classification: Biological and Physical Dosimetry