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2011-11-11

TO WHOM IT MAY CONCERN

This is to certify that Ms Aisyah Elliyanti from the Dr.M.Djamil Hospital Padang in INDONESIA participated in the **International Conference on Clinical PET and Molecular Nuclear Medicine** which was held in Vienna, Austria from 8 to 11 November 2011.

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Evaluation of Patient Radiation Dose During Nuclear Medicine investigations at Dr.M.Djamil Hospital Padang Indonesia

IAEA-CN-185/262

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Background:

Radiation exposure for medical purposes is justified only when it is benefit to a patient. Radiation dose for medical diagnostic should be low, reasonable and achievable; however, with provision for an adequate and optimumclinical diagnostics. The aim of this study is to determine the radioactivity levels and equivalent radiation doseduring nuclear medicine investigations that is within the standardized safe limits at Dr.M.Djamil hospital Padang Indonesia.

Material and Methods

Subjects were selected in random of those patients who were referred to our department for thyroid imaging, bone imaging and renography during the year 2009. They were divided into three groups, based on investigation types and radiopharmaceutical administration:

1- Group one: Thyroid imaging, Technetium 99m(^{99m}Tc)
2- Group two: Bone imaging, Technetium 99m-methylene-diphosphonate (^{99m}Tc-MDP).
3- Group three: Renography, Technetium 99m-diethylenetriaminepentaacetic acid (^{99m}Tc-DTPA).

Dose calibrator(Medisystem-202) and Thermoluminescence dosimetry -100 (TLD -100) were used to measure radioactivity level and equivalent radiation dose respectively. All subjects who were involved in this study had been given an inform consent.

Results and Discussion:

Thirty four subjects were included in this study with age ranging from 29-65 years. 12 subjects participated in group one, 12 in group two and 10 in group three. Group one, two and three received average levels of radioactivity per test were 4.08 mCi (151 MBq), 14.3 mCi (529 MBq) and 4.46 mCi (165 MBq) respectively.Guidance levels of activity maximal for procedures are 200 MBq, 600 MBq and 350 MBq. Deviation from normally used amounts may be necessary under a variety of physical and pathological condition. These cases should be given special consideration by the physician performing the procedure.The averageof equivalent radiationdoseper test for group one, two and three were 0.31±0.11mSv, 0.7±0.31mSv, 0.33±0.88mSv respectively.

Conslusion

IAEA-CN-185/262For patient safety, radioactivity levels and equivalent radiation doseduring nuclear medicine investigations at our hospital within international and national guideline of radiation protection. Working under standards of radiation protection is mandatory