A software for automatic calculation of radiation dose to patients from radiopharmaceuticals

J.L. Gómez Perales¹, A. García Mendoza²
¹Nuclear Medicine Service. “Puerta del Mar” University Hospital (Cádiz, SPAIN)
²Nuclear Medicine Service, “Torrecárdenas” Hospital (Almería, SPAIN)

OBJECTIVE
The aim of this project is to develop a software to determine and report the radiation dosimetry of radiopharmaceuticals administered to patients.

MATERIALS AND METHODS
The computer application was developed in Visual Basic programming language, and dosimetric calculations are made based on the values given by the International Commission on Radiological Protection (ICRP).

RESULTS
We have developed a computer program for automatic calculation of the radiation dosimetry of radiopharmaceuticals administered to patients, according to the patient's age, the type of radiopharmaceutical and the administered activity (in mCi or MBq). The resulting dosimetry is shown in a report that specifies the absorbed doses for each organ (in mGy), sorted from highest to lowest, and the effective dose (in mSV).

This application is available at www.radiofarmacia.org/dosisrad

CONCLUSION
DosisRad is a software easy to use that allows the automatic calculation of the radiation dosimetry of a radiopharmaceutical administered to a patient. It also issues of a dosimetric report that can be incorporated to the patient's medical record.