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Lectura recomendada

Biokinetics and dosimetry of commonly used radiopharmaceuticals in diagnostic nuclear medicine – a review

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Purpose: The impact on patients' health of radiopharmaceuticals in nuclear medicine diagnostics has not until now been evaluated systematically in a European context. Therefore, as part of the EU-funded Project PEDDOSE.NET (www.peddose.net), we review and summarize the current knowledge on biokinetics and dosimetry of commonly used diagnostic radiopharmaceuticals.

Methods: A detailed literature search on published biokinetic and dosimetric data was performed mostly via PubMed (www.ncbi.nlm.nih.gov/pubmed). In principle the criteria for inclusion of data followed the EANM Dosimetry Committee guidance document on good clinical reporting.

Results: Data on dosimetry and biokinetics can be difficult to find, are scattered in various journals and, especially in paediatric nuclear medicine, are very scarce. The data collection and calculation methods vary with respect to the time-points, bladder voiding, dose assessment after the last data point and the way the effective dose was calculated. In many studies the number of subjects included for obtaining biokinetic and dosimetry data was fewer than ten, and some of the biokinetic data were acquired more than 20 years ago.

Conclusion: It would be of interest to generate new data on biokinetics and dosimetry in diagnostic nuclear medicine using state-of-the-art equipment and more uniform dosimetry protocols. For easier public access to dosimetry data for diagnostic radiopharmaceuticals, a database containing these data should be created and maintained.

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