RADIATION PROTECTION PROCEDURES IN THE USE OF Tc-99m

This 16 page booklet was written to give guidance on the radiation protection procedures required when dealing with patients to whom Tc-99m-labeled radiopharmaceuticals have been administered. Recommendations are given to assist radiological safety officers and other radiological protection advisers in establishing local rules and instructions for persons who come in contact with such patients but who are not directly involved in the administration of the radiological procedure.

Some examples of those indirectly involved are the patient’s family and visitors, other patients, infants being breast fed by such patients, surgeons, nursing staff, hospital technologist, postmortem staff, etc.

The greatest portion of this short document consists of three appendices, the first of which deals with the external hazards from Tc-99m to the various categories of individuals that come in contact with the patient. Essentially, no restrictions are recommended for these individuals except in the case of patients who are nursing mothers, and in instances where there is a spillage of excreta or the patient vomits.

Based on the patient being administered the authors’ chosen level of 1 GBq (27 mCi) of Tc-99m, the absorbed dose is estimated for attending nurses, ambulance staff, other patients, and many other categories of people that may come in contact with the patient.

Appendix B deals with hazards involved with the possible ingestion of Tc-99m, and Appendix C briefly describes the hazards of external contamination with this radionuclide.

In general, this publication can be a very useful aid in the education of hospital staff regarding the possible hazards to staff and patient’s family and friends from the use of Tc-99m radiopharmaceuticals.

A minor criticism of this document is with the statement, “The chosen level of 1 GBq (27 mCi) is greater than activities administered for any current investigation and is unlikely to be exceeded in the foreseeable future.” This reviewer believes that while 27 mCi is a reasonable choice of an upper-limit level, administered activities of greater than 27 mCi are not unheard-of for some procedures.

VINCENT SODD
University of Cincinnati Medical Center
Cincinnati, Ohio

Books Received


