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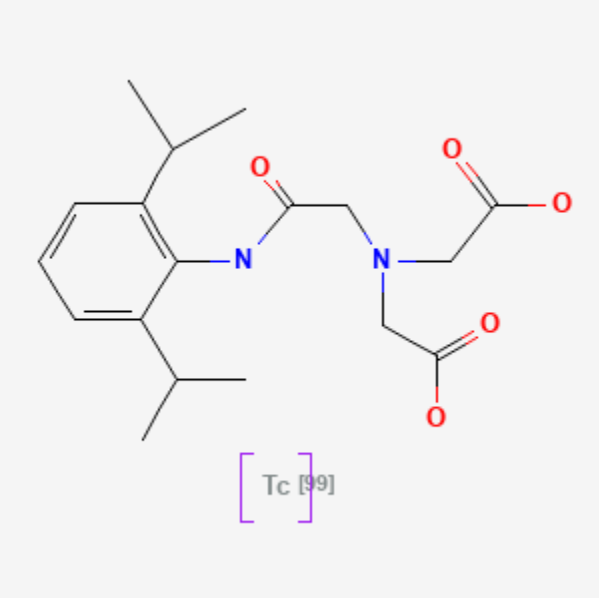
Technetium Tc 99m Disofenin

Revised: November 15, 2023.



Drug Levels and Effects

Summary of Use during Lactation

Information in this record refers to the use of technetium Tc 99m disofenin (Tc 99m DISIDA) as a diagnostic agent. A US Nuclear Regulatory Commission subcommittee has recommended that nursing be discontinued for 24 hours after administration of all technetium Tc 99m diagnostic products to simplify guidance recommendations, although this time interval may be longer than necessary.[1] The International Commission on Radiological Protection also recommends that breastfeeding need not be interrupted after administration technetium Tc 99m disofenin.[2] However, to follow the principle of keeping exposure "as low as reasonably achievable", some experts recommend nursing the infant just before administration of the radiopharmaceutical and interrupting breastfeeding for 3 to 6 hours after the dose, then expressing the milk completely once and discarding it. If the mother has expressed and saved milk prior to the examination, she can feed it to the infant

during the period of nursing interruption.[3-6] Mothers need not refrain from close contact with their infants after usual clinical doses.[7]

Mothers concerned about the level of radioactivity in their milk could ask to have it tested at a nuclear medicine facility at their hospital. When the radioactivity is at a safe level, she may resume breastfeeding. A method for measuring milk radioactivity and determining the time when a mother can safely resume breastfeeding has been published.[8]

For nursing mothers who work with Tc 99m substances in their workplace, there is no need to take any precautions other than those appropriate for general radiation protection.[9]

Drug Levels

Tc 99m is a gamma emitter with a principal photon energy of 140 keV and a physical half-life of 6.04 hours.[1] The effective half-life of Tc 99m DISIDA ranges from 3.6 to 3.8 hours.[8]

Effects in Breastfed Infants

Relevant published information was not found as of the revision date.

Effects on Lactation and Breastmilk

Relevant published information was not found as of the revision date.

References

1. Dilsizian V, Metter D, Palestro C, Zanzonico P. Advisory Committee on Medical Uses of Isotopes (ACMUI) Sub-Committee on Nursing Mother Guidelines for the Medical Administration of Radioactive Material. Final report submitted: January 31, 2019. 2019. Available at: https://www.nrc.gov/docs/ML1903/ML19038A498.pdf
2. Mattsson S, Johansson L, Leide Svegborn S, et al. Radiation dose to patients from radiopharmaceuticals: A compendium of current information related to frequently used substances. ICRP Publication 128. Annex D. Recommendations on breast-feeding interruptions. Ann ICRP 2015;44 (2 Suppl):319-21.
3. Mountford PJ, Coakley AJ. A review of the secretion of radioactivity in human breast milk: Data, quantitative analysis and recommendations. Nucl Med Commun 1989;10:15-27. PubMed PMID: 2645546.
4. Early PJ, Sodee DB. Principles and practice of nuclear medicine. 2nd ed. St Louis Mosby-Year Book, Inc 1995:1380-1.
5. International Atomic Energy Agency. Radiation Protection and Safety in Medical Uses of Ionizing Radiation, IAEA Safety Standards Series No. SSG-46, IAEA, Vienna. 2018. Available at: https://www.iaea.org/publications/11102/radiation-protection-and-safety-in-medical-uses-of-ionizing-radiation
6. ARSAC notes for guidance: Good clinical practice in nuclear medicine. Notes for guidance on the clinical administration of radiopharmaceuticals and use of sealed radioactive sources. 2020. Available at: https://www.gov.uk/government/publications/arsac-notes-for-guidance
7. Mountford PJ, O'Doherty MJ. Exposure of critical groups to nuclear medicine patients. Appl Radiat Isot 1999;50:89-111. PubMed PMID: 10028630.
8. Stabin MG, Breitz HB. Breast milk excretion of radiopharmaceuticals: Mechanisms, findings, and radiation dosimetry. J Nucl Med 2000;41:863-73. PubMed PMID: 10809203.
9. Almén A, Mattsson S. Radiological protection of foetuses and breast-fed children of occupationally exposed women in nuclear medicine - Challenges for hospitals. Phys Med 2017;43:172-7. PubMed PMID: 28882410.

Substance Identification

Substance Name

Technetium Tc 99m Disofenin

Drug Class

Breast Feeding

Lactation

Milk, Human

Radiopharmaceuticals

Technetium Compounds

Diagnostic Agents