



Association for Radiologic & Imaging Nursing

POSITION STATEMENT

Contrast Media Administration to Breastfeeding Women

Overview

Imaging studies requiring either iodinated or gadolinium-based contrast media are sometimes recommended in patients who are breastfeeding. Both the patient and the patient's physician may have questions and concerns regarding the effects of contrast media on breast milk and safety for the breastfeeding infant following intravenous contrast administration to the mother. This Position Statement is intended to provide guidance to health care providers and personnel as they counsel breastfeeding mothers requiring imaging studies that utilize iodinated or gadolinium-based contrast media.

Target Audience

Radiology Nurses, Radiology Technologists, Radiologists, Radiology Residents, Medical Students, other Health Care Providers caring for women and infants.

Position

Literature on the excretion of iodinated and gadolinium-based contrast media into breast milk and the gastrointestinal absorption of these agents from breast milk by human infants is very limited; however, several studies have shown that the expected dose of contrast medium absorbed by the infant from ingested breast milk is extremely low. Theoretical concerns, such as toxicity and allergic sensitization or reaction in breastfeeding infants, have not been reported.

The following facts are known¹:

- Because of its low lipid solubility, less than 1% of the dose of contrast medium administered to the mother is excreted into breast milk in the first 24 hours.
- Less than 1% of the contrast medium in breast milk ingested by the infant is absorbed from the gastrointestinal tract.
- The expected dose of contrast medium absorbed by a breastfeeding infant whose mother receives intravenous contrast is very low, less than 0.01% for iodinated contrast and less than 0.0004% for gadolinium-based contrast.
- Both iodinated and gadolinium-based contrasts have approximately two-hour half-lives. Nearly 100% of intravenous contrast media is cleared from the bloodstream within 24 hours.

Based on the available data and the limited exposure to contrast medium via breastfeeding, the American College of Radiology (ACR) and the American Academy of Pediatrics (AAP) believe that it is safe for

the mother and infant to continue breastfeeding without interruption following the administration of iodinated or gadolinium-based contrast media².

Ultimately, mothers who are breastfeeding should be given the opportunity to make an informed decision regarding the continuation or temporary suspension of breastfeeding following intravenous contrast media administration. Sharing information about the known facts of contrast media excretion in breast milk and absorption by the infant gut, as well as the current recommendations by the ACR and AAP should prove helpful to the informed decision making process. If the mother wishes to abstain from breastfeeding, she may decide to actively express and discard her breast milk for up to 24 hours. This information is best discussed with the mother in advance whenever possible to allow for the banking of up to a 24 hour supply of breast milk ahead of the contrasted study if needed.

References

- ¹ American College of Radiology, ACR Committee on Drugs and Contrast Media. (2013) ACR Manual on Contrast Media, Version 9. Retrieved from http://www.acr.org/~media/ACR/Documents/PDF/QualitySafety/Resources/Contrast%20Manual/2013_Contrast_Media.pdf
- ¹ Hari, Cheryl Sachs & the Committee on Drugs. (2013) The Transfer of Drugs and Therapeutics into Human Breast Milk: An Update on Selected Topics. *Pediatrics*, 2013; 132:3, e796-e809. Retrieved from: <http://pediatrics.aappublications.org/content/132/3/e796.full.html>
- Committee on Drugs. (2001) The Transfer of Drugs and Other Chemicals into Human Milk. *Pediatrics*, 2001;108; 776. Retrieved from: <http://pediatrics.aappublications.org/content/108/3/776.full.html>
- Bettman MA. Frequently asked questions: Iodinated contrast agents. *Radiographics* 2004; 24:S3-S10
- Webb JAW, Thomsen HS, Morcos et al. The use of iodinated and gadolinium contrast media during pregnancy and lactation. *Eur Radiol* 2005; 15: 1234-1240
- Trembley E, Therasse E, Thomassin N et al. Quality Initiatives Guidelines for use of medical imaging during pregnancy and lactation. *Radiographics* 2012; 32: 897-911.
- Wang PI, Chong ST, Kielar AZ. Imaging of pregnant and lactating patients: Part 1. evidence-based review and recommendations. *AJR* 2012; 198:778-784.
- Rofsky NM, Weinreb JC, Litt AW. Quantitative analysis of gadopentate diglumine excreted in breast milk. *JMRI* 1993;3:131-132.

Kubik-Huch RA, Gottstein Alame NM, Frenzel T et al. Gadopentetate diglumine excretion into human breast milk during lactation. Radiology 2000; 216:555-558.7. Lin SP, Brown JJ. MR contrast agents: physical and pharmacologic basics. JMRI 2007;25:884-899

Author: Delma Armstrong, BSN, RN, CRN

Reviewer: Kate Little, RN; Sharon Lehman, ACNS-BC, University of Minnesota Radiology Nurses

Approved by the ARNA Board of Directors: August 1, 2006

Updated by: Sharon Lehman, October 2009

Revisions Approved by the ARIN Board of Directors: November 2009

Updated by: Jamie C Bates, BSN, RNC-HROB, March 2014

Approved by the ARIN Board: March 2014

Association for Radiologic & Imaging Nursing
2201 Cooperative Way, Suite 600
Herndon, VA 20171
Tel: 866-486-2762
Fax: 703-884-2229
info@arinursing.org