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NEWS

RSNA Press Release

Got Inexpensive Contrast Agent? Milk Plays New Role in Imaging

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At A Glance

- Whole milk is an alternative oral contrast solution for gastrointestinal CT imaging.
- Bowel distension and enhancement achieved with milk and VoLumen are similar.
- VoLumen's cost is $18 per patient, while whole milk's cost is $1.39 per patient.
- Patients are more willing to drink milk than VoLumen.

CHICAGO — In a new twist on the slogan "milk does a body good," radiologists are testing use of the dairy staple as a contrast agent in gastrointestinal imaging exams-with excellent results. The researchers reported their findings today at the annual meeting of the Radiological Society of North America (RSNA).

"We are able to achieve similar bowel distension and enhancement as we see with the commonly used contrast agent, VoLumen," said Lisa R. Shah-Patel, M.D., a radiology resident at St. Luke's-Roosevelt Hospital in New York City. "In addition, we found that patients are more willing to drink milk because it is part of their daily lives, and they know what to expect."

Computed tomography (CT) imaging of the gastrointestinal tract is often done for abdominal pain. When the condition calls for visualization of the small intestinal wall, a negative oral contrast agent should be used. VoLumen is a barium-based oral contrast agent that works with intravenous contrast to allow better visualization of the bowel wall and clearer delineation between the bowel cavity and soft tissue.

When milk is used, the milk-filled intestinal cavity appears dark, while the intestinal wall appears bright due to intravenous contrast enhancement. The dark intestinal cavity contrasting with the bright intestinal wall makes any evidence of disease on the bowel wall more visible.

The researchers studied 179 adult patients undergoing CT with oral and intravenous contrast for abdominal discomfort to compare cost effectiveness and patient tolerance for whole milk versus VoLumen. Sixty-two patients received VoLumen, and 117 received milk. Of the 57 VoLumen patients who completed a subsequent questionnaire, 24 (42 percent) experienced abdominal discomfort such as cramps, diarrhea and nausea, while only 27 (23 percent) of the 117 patients who received milk reported abdominal discomfort.

Overall, milk was found to be just as effective as VoLumen in bowel distension (expansion)

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and bowel-wall conspicuity (enhancement). One important difference is the price. VoLumen costs $18 per patient, while whole milk costs $1.39 per patient.

"There are several advantages to milk. Patients are more willing to drink milk than VoLumen, and it costs a fraction of the price," Dr. Shah-Patel said. "We hope that substituting milk for other contrast agents will reduce the number of people who refuse imaging tests because they do not want to drink the oral contrast, especially children."

Co-authors are Chi Wan Koo, M.D., Jeanne W. Baer, M.D., and David H. Frager, M.D.

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RSNA is an association of more than 40,000 radiologists, radiation oncologists, medical physicists and related scientists committed to promoting excellence in radiology through education and by fostering research, with the ultimate goal of improving patient care. The Society is based in Oak Brook, Ill.

Editor's note: The data in these releases may differ from those in the printed abstract and those actually presented at the meeting, as researchers continue to update their data right up until the meeting. To ensure you are using the most up-to-date information, please call the RSNA Newsroom at (312) 949-3233.

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