Presentation at ISMRM on Applications of Ferumoxytol

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Current and Potential Imaging Applications of Ferumoxytol for Magnetic Resonance Imaging

Presentation at ISMRM by Dr. Edward Neuwelt on Sunday, April 23 at 1:45pm during the Weekend Educational Course: MRI, MRS & Molecular Imaging to Diagnose Disease & Assess Treatment

Ferumoxytol is increasingly being studied as a contrast agent in clinical trials. Currently FDA approved for use as iron replacement therapy in patients with chronic kidney disease, the possible utility of using ferumoxytol as a contrast agent in this population is clinically significant. This review draws attention to viable options of contrast-enhanced cross-sectional imaging in patients with renal failure, which we felt would be of great interest to the readership of *Kidney International*. This review highlights the growing body of literature that explores a variety of clinical indications suggesting ferumoxytol has utility not only as an alternative to gadolinium-based contrast agents, but also as a specialized magnetic resonance imaging (MRI) contrast agent with unique properties. The authors are experienced in using ferumoxytol to image the central nervous system, body, and cardiovascular system. We collected relevant literature that focused on ferumoxytol over other ultrasmall superparamagnetic iron oxides and highlight the clinical applications of ferumoxytol as a contrast agent. This article describes ferumoxytol administration, dosing, and timing for imaging applications, followed by organ-specific utilizations. An atlas was created that more fully describes the applications of ferumoxytol throughout the body, as well as a table of relevant clinical publications that use ferumoxytol as a MRI contrast agent, both of which can be found as online supplements.

About the Organization: The International Society for Magnetic Resonance in Medicine is an international, nonprofit, scientific association whose purpose is to promote communication, research, development, and applications in the field of magnetic resonance in medicine and biology and other related topics and to develop and provide channels and facilities for continuing education in the field. Its multidisciplinary membership of over 6,000 consists of clinicians, physicists, engineers, biochemists, and
technologists. In addition to its large scientific meetings, the Society holds workshops and publishes two journals, Magnetic Resonance in Medicine and the Journal of Magnetic Resonance Imaging, and a newsletter, MR Pulse. It also sponsors 17 study groups on specific areas of scientific interest and chapters based on geographical location.