Interstitial MRI lymphangiography of the lower limbs

Dear Sir,

We read the article "Technical note: MRI lymphangiography of the lower limb in secondary lymphedema" by Kamble et al., published recently in your journal with great interest. [1]

We concur with the authors that the investigation of secondary lymphedema has been enigmatic with direct lymphangiography being too invasive and lymphiscintigraphy having poor spatial and temporal resolution. The authors have rightly pointed out that indirect contrast-enhanced MRI lymphangiography offers excellent visualization of the lower limb lymphatics in secondary lymphedema. The greatest advantage of this technique is the absence of radiation exposure, the multiplanar capability of MRI allowing for precise compartmental localization (epifascial/subfascial/intramuscular) and accurate depiction of the extent of abnormality. We would like to point out that one of the major limitations of the technique is poor visualization of inguinal lymph nodes after intradermal injection of contrast in the feet. We would also like to share our experience of indirect MRI lymphangiography with a newer MRI contrast agent with high relaxivity, gadobenate dimeglumine (0.5 mmol/L MultiHance, Bracco, Milano, Italy). We have found gadobenate dimeglumine to provide more detailed depiction of the lymphatic anatomy in the small number of patients that we have done [Figure 1A and B]. Lohrmann et al. [2] have demonstrated frequent visualization of inguinal lymph nodes after injection of gadoteridol (ProHance, Bracco-Altana, Konstanz, Germany) one of the newer contrast agents. The use of newer contrast agents with higher relaxivity thus offers the possibility of simultaneous depiction of the lymphatic channels and the lymph node groups.

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References

Authors’ reply
Dear Sir,

We agree with Parihar et al.[1] that this technique of MRI lymphangiography is relatively noninvasive and useful in depicting lymphatic channels of the lower limb in...
secondary lymphedema with the added advantages of absence of radiation, multiplanar reconstruction, and precise compartmental localization.\(^2\)

We have used gadopentate dimeglumine (Magnevist, Bayer Schering Pharma, Berlin, Germany) for injection which is different from gadobenate dimeglumine (MultiHance, Bracco, Milano, Italy); Magnevist has low viscosity (2.9 vs 5.3) and low T1 relaxivity (4.1 vs 8.3 at 1.5T) as compared to Multihance.\(^3,4\) We were not able to demonstrate inguinal lymph nodes probably because Magnevist gets washed away early as it reaches the groin due to low viscosity and low relaxivity. We completely agree with the authors that newer contrast media like Multihance may be a better option to visualize lymphatic channels along with visualization of inguinal lymph nodes in secondary lymphedema due to the higher relaxivity, which may help improve the quality of the technique.

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References