Conversion from MRI to CT Using AI for Fractures

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ABSTRACT

Synthetic CT images reconstructed from MR images is an upcoming artificial intelligence (AI) tool for radiologists. It has been validated for detection of erosions at the sacroiliac joints and validation for other applications is ongoing – with high expectations. The technique uses deep learning, a subtype of machine learning, to reconstruct the images. By adding one MR sequence and some automated postprocessing, the radiologist obtains synthetic CT images which can be multiplanar reformatted. One of the main applications will likely be the more detailed evaluation of fractures on MRI. Once validated, the possibilities can be numerous – for example, to evaluate an incidental fracture during MR scanning or to evaluate fractures whilst avoiding radiation in pediatric patients. The latest data on synthetic CT for fractures will be discussed, based on available literature, ongoing studies, and experience at Ghent University Hospital.

COMPETING INTERESTS

The authors have no competing interests to declare.

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