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ESSENTIAL IMAGE /*Genitourinary imaging*

MRI features of lithium-induced nephropathy

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A 59-year-old woman with a 25-year history of mental illness that was categorized as a bipolar disorder was referred for magnetic resonance imaging (MRI) examination of the kidneys. She has been receiving lithium for more than 20 years. MRI revealed bilateral, multiple, tiny microcysts that were markedly hyperintense on T2-weighted sequences. The cysts were homogeneously distributed in the cortex and medulla (Fig. 1). The kidneys had a normal size. Nephrotoxicity in patients receiving long-term treatment with lithium salts is well known. Chronic renal failure occurs after ten to twenty years of treatment. Renal biopsy is not required when the clinical history is typical. Microcysts presumably originate from the distal tubular structures and collecting tubes. The cysts are homogeneously distributed in both the cortex and the medulla in otherwise normal-sized kidneys [1]. They are present in 33% to 62.5% of patients receiving lithium therapy. Their numbers may vary among patients from rare (< 10 cysts) to very abundant (> 60 cysts) and their size is typically between 1 to 2 mm [2]. T2-weighted images show typical hyperintense cysts on T2-weighted images [3] and help establish the diagnosis of lithium-induced nephropathy.

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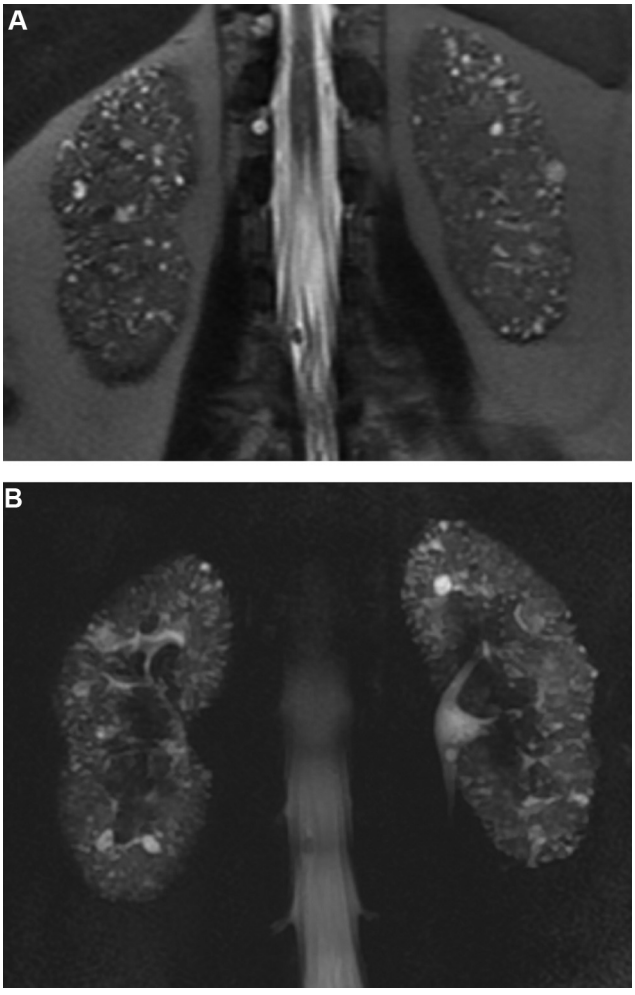

Figure 1. Magnetic resonance (MR) images of the kidneys in a 59-year-old woman who has been receiving lithium treatment for more than 20 years. A. Fat attenuated T2-weighted MR image in the coronal plane (TR/TE = 1250/90 msec). B. Fat attenuated heavily T2-weighted MR image in the coronal plane (TR/TE = 6000/600 msec) show multiple, hyperintense microcysts in the cortex and medulla of both kidneys.

Disclosure of interest

The authors declare that they have no competing interest.

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