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Clodronate-superparamagnetic iron oxide-containing liposomes attenuate renal injury in rats with severe acute pancreatitis

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Key words: Pancreatitis, Clodronate disodium, Macrophage, Kidney injury

Clodronate-liposome selectively depleted macrophages. This study was to investigate the role of renal macrophage infiltration in acute renal injury in rats with SAP and to evaluate the potential of superparamagnetic iron oxide (SPIO)-enhanced magnetic resonance imaging (MRI) for regulation. Clodronate-containing liposomes protected against renalinjury in SAP rats, and SPIO can be used as a tracer for MRI examination to detect renal injury in SAP rats. SPIO-aided MRI provided an efficient non-invasive way to monitor the migration of macrophages after renal injury in rats with SAP.

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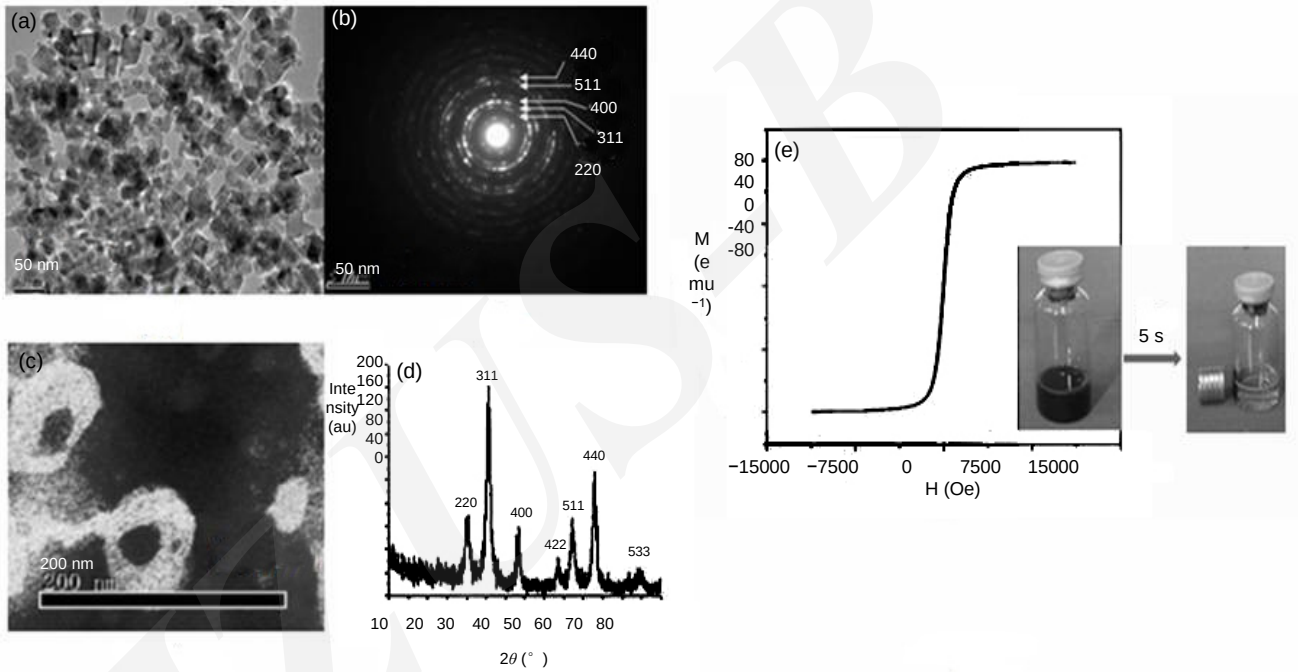


Fig. 1 Characterization of SPIO and liposomes.

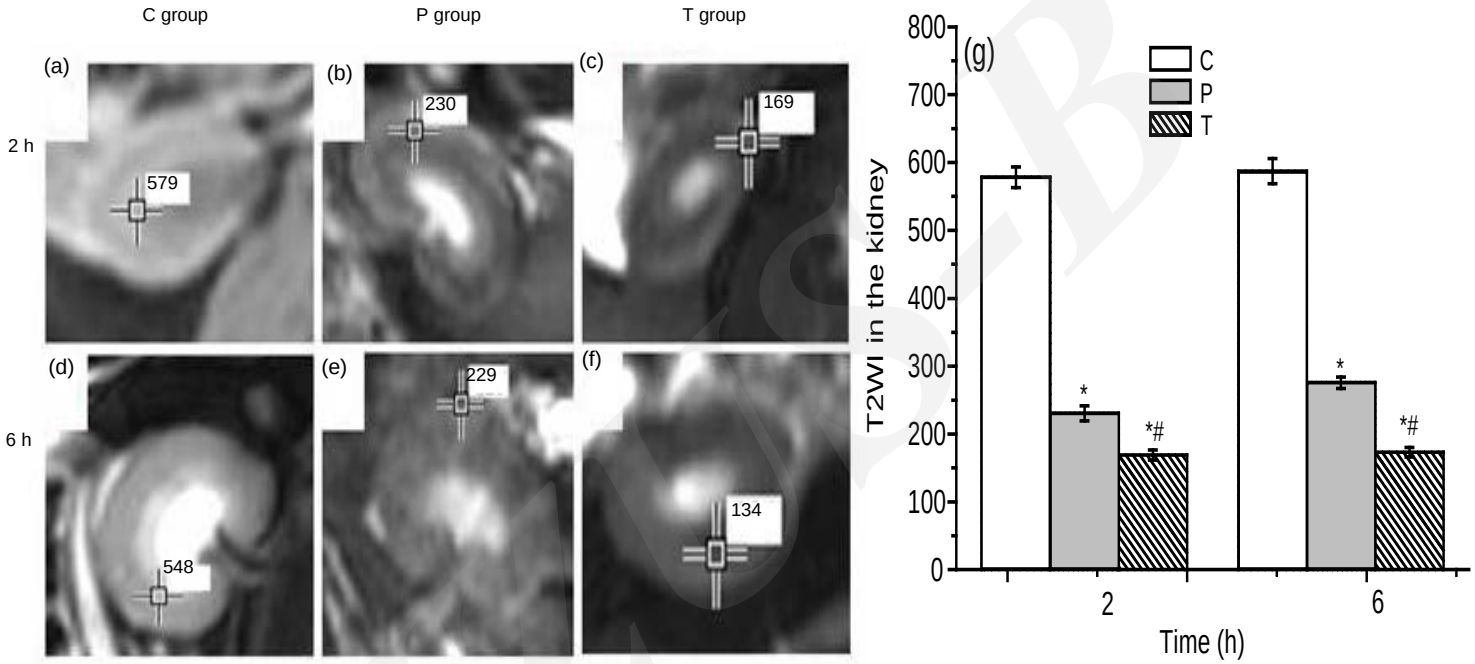


Fig. 2 Signal intensity of the kidney on T2-weighted image (T2WI)