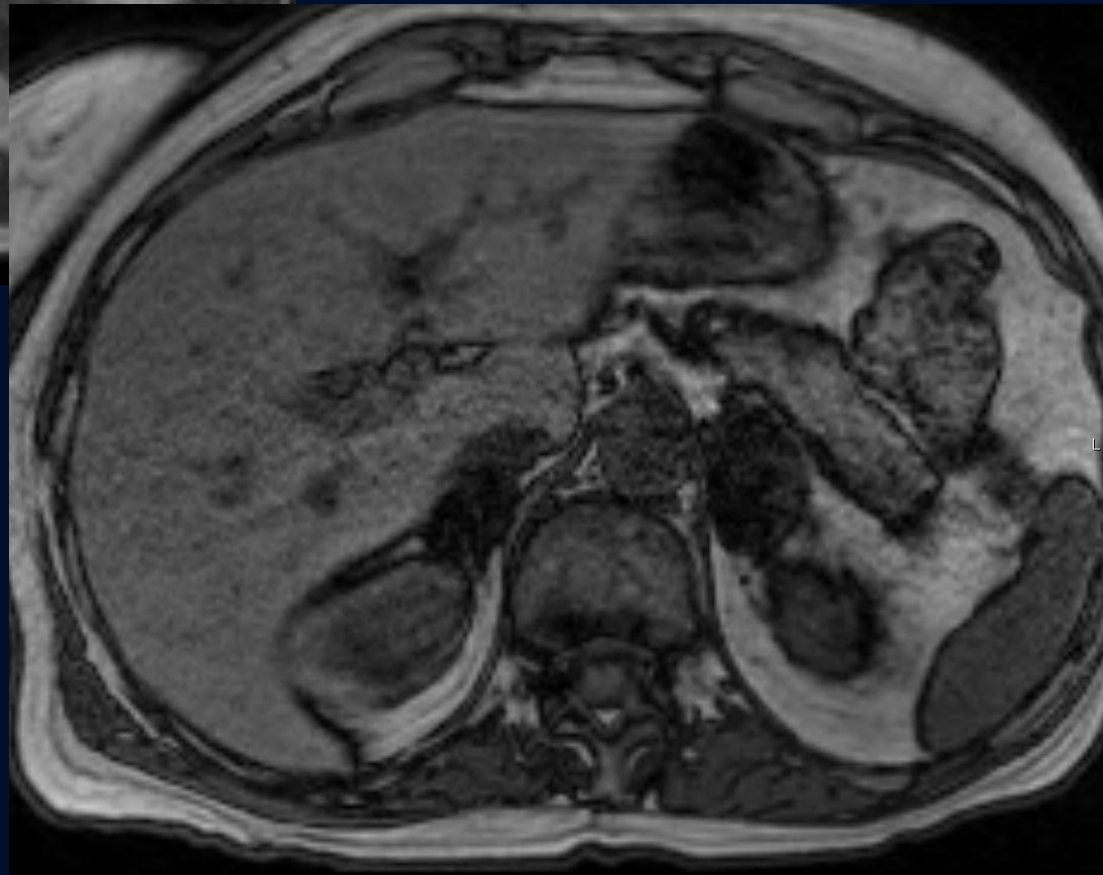
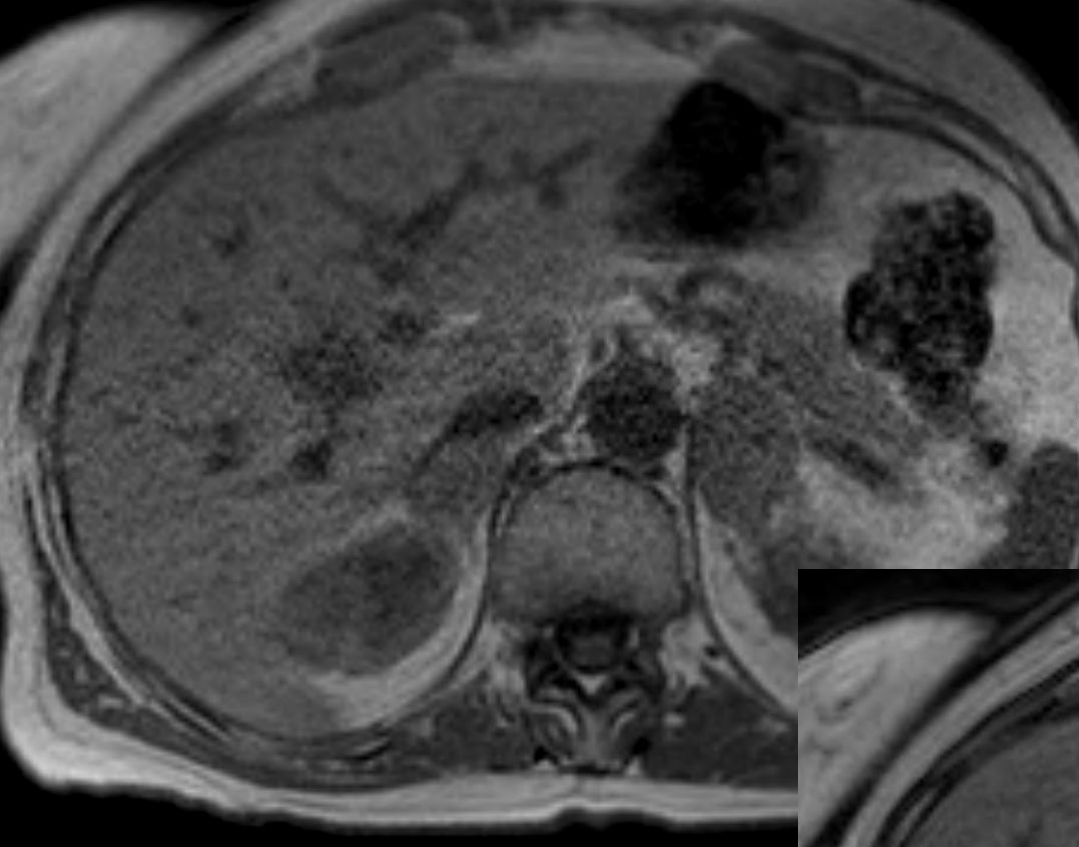


# 40F with incidental finding on CT

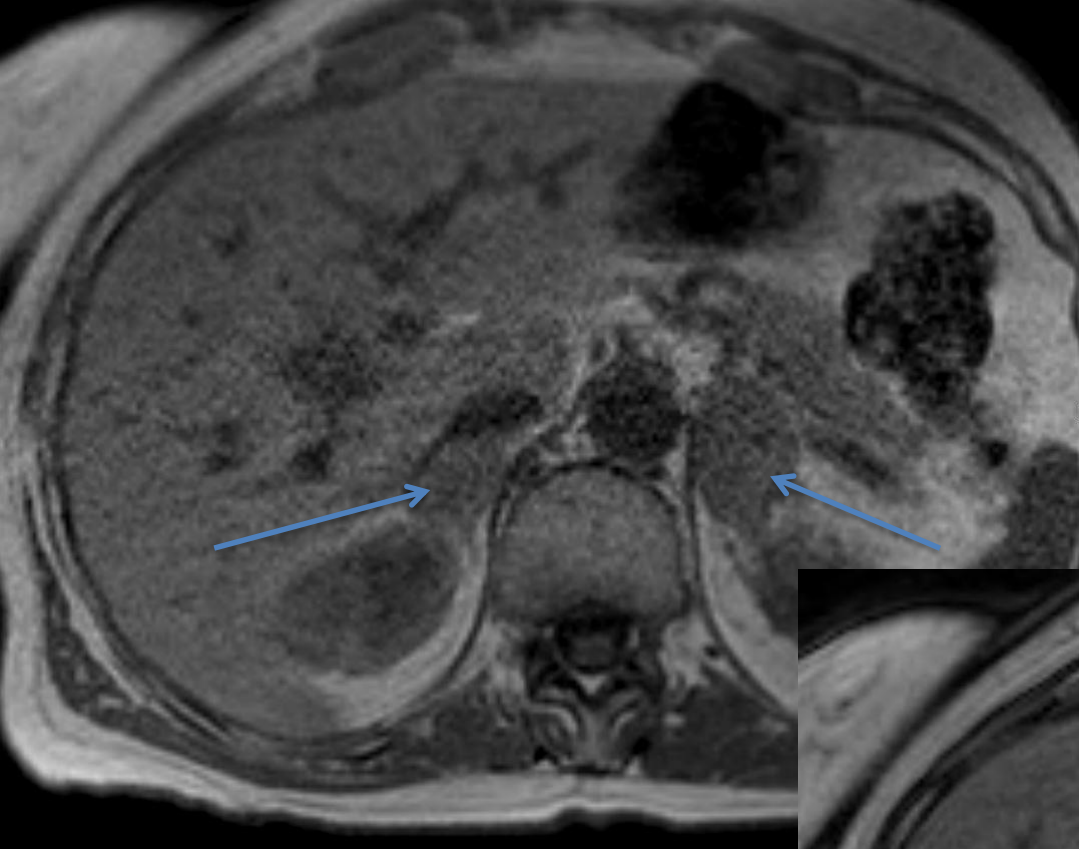
Jeffrey Guzelian, MD



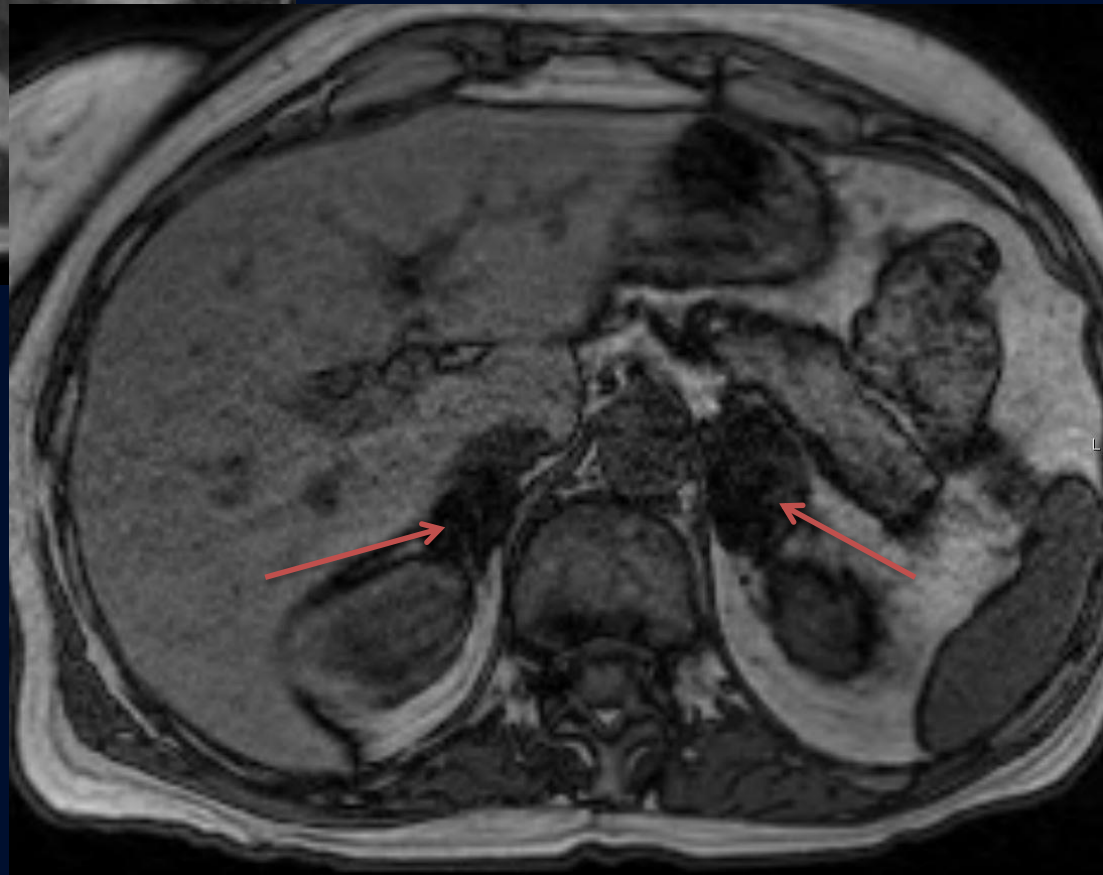


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# Bilateral lipid rich adrenal adenomas



Out-of-phase GRE image at TE=2.2 msec. The nodules (red arrows) fall in signal, a phase-cancellation artifact indicative of microscopic fat and diagnostic of lipid rich adenoma



In-phase GRE at TE = 4.4 msec on 1.5T MRI demonstrates bilateral adrenal nodules of intermediate signal intensity (blue arrows)

# Lipid rich adrenal adenoma

- Benign adrenal cortex tumor
- Contains abundant intracytoplasmic lipid
- NECT:  $< 10$  HU (71% sensitivity, 98% specificity)
- MRI: Significant decrease in signal intensity at out of phase T1W imaging (due to intravoxel lipid and water). Water and fat protons have slightly different resonant frequencies; their spins go in- and out-of-phase with each other as a function of time. When imaged out-of-phase, a signal phase cancellation effect results in loss of the signal present during in-phase imaging.