**Supplementary Material**

**Diagnostic imaging studies**

Appropriate dedicated renal CT technique using multidetector row CT (General Electric Discovery CT750 HD) with adequate bolus injection was performed, including thin section thickness (<3 mm thick with 0.5-1.5 overlap) and multiple-phase acquisition with at least unenhanced, postcontrast corticomedullary phase and nephrographic phase with additional delayed excretory phase in selected cases (for example when contrast enhancement remains uncertain). In the assessment of most renal cystic masses, the most relevant postcontrast phase for diagnostic performance was the parenchymal nephrographic phase in combination with the unenhanced phase. Bosniak III cysts were defined as cystic masses with irregular walls or septa with enhancement.

Contrast enhancement at MRI (General Electric MR 450 1.5T) was usually appreciated subjectively by comparing side-by-side precontrast and postcontrast images. In cases of subtle contrast enhancement, quantitative assessment was based on the relative percentage increase of signal intensity after contrast injection, using a threshold of 15% to define a significant contrast enhancement [1]. Image subtraction was also useful in assessing subtle postcontrast enhancement and enhancement characteristics of complex cystic lesions that show hyperintense signal intensity on precontrast images. Diffusion-weighted MRI with apparent diffusion coefficient measurements provided additional information on the presence of tumor tissue component [2].

Real time CEUS (Toshiba Aplio 500) at low mechanical index after bolus injection of 2.4 mL of SonoVue® was used for the characterization of some masses that remained indeterminate at CT and/or MRI, because of a borderline post-contrast enhancement. By extension, complex renal cysts were considered as Bosniak III when CEUS could detect microbubble signal from the vascularized wall, septa, or solid nodules of complex cystic renal masses [3].

**References**

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3. Bertolotto M, Cicero C, Perrone R, Degrassi F, Cacciato F, Cova MA. Renal Masses With Equivocal Enhancement at CT: Characterization With Contrast-Enhanced Ultrasound. AJR. 1 mai 2015;204(5):W557-65.