

Editorial Comment**Editorial Comment to Diagnostic performance of contrast-enhanced ultrasonography and magnetic resonance imaging for the assessment of complex renal cysts: A prospective study**

Clinical application documented with data from the literature justifies the use of contrast-enhanced ultrasound (CEUS) as the most sensitive method for the detection of low flow microcirculation. Because of the dimensions of its particles and short lifetime (5–7 min) before disintegration occurs, ultrasonic contrast media is the only true intravascular contrast used in modern imaging. Therefore, because of this, guidelines have included CEUS in the diagnostic evaluation algorithm of complex kidney cysts.¹ The Bosniak classification of renal cysts is modified for CEUS, with a distinct definition of perceptible (IIF category cysts) with respect to measurable, continuous (category III category cysts) contrast enhancement.²

Computed tomography (CT) is still a sovereign method in the diagnosis of kidney cysts I, II and IV categories by Bosniak. CT is also a standard for staging purposes of category III and IV cysts. Magnetic resonance imaging (MRI) in comparison with CT is significantly more sensitive and insignificantly more specific in distinguishing category IIF from the category III kidney cyst with a documented tendency to falsely upgrade kidney cysts.³ In this article by Defortescu *et al.*, the authors showed that CEUS has higher sensitivity and similar specificity compared with MRI, and that the accuracy of CEUS tends to grow with the operator's experience and knowledge of the examination limits.⁴ Complex cysts analyzed in this article did not have calcifications, were not localized in the medial aspect of the kidney and no extremely obese patients were examined. As with gray scale ultrasound examination, CEUS is more sensitive to differentiate surgical from non-surgical kidney cysts that are small in size compared with CT examination (partial volume effect) and MRI examination (lower spatial resolution).⁵

The authors confirmed in the present study, as literature data have previously suggested, that the lack of enhancement during CEUS excludes the surgery for kidney cysts.⁶ It is justified to incorporate the CEUS examination in the diagnostic

evaluation and monitoring of complex renal cysts instead of CT and MRI examination, when CT and MRI are contraindicated or inconclusive.

The main limitation of this prospective study was the small number of patients enrolled and an even smaller number of surgically-treated cysts that are documented with histopathology. Standardized, prospective studies are necessary, and should include a larger number of lesions and a longer period of monitoring.

Biljana Markovic Vasiljkovic M.D., Ph.D.^{1,2}

¹*Uroradiology Department, Center for Radiology and MRI, Clinical Center of Serbia, and* ²*Medical Faculty, University of Belgrade, Belgrade, Serbia*

biljanamarkovicvasiljkovic@yahoo.com

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