Re: MRI Evaluation of Complex Renal Cysts Using the Bosniak Classification: A Comparison to CT

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EDITORIAL COMMENT

The Bosniak classification was first published in 1986 and it was a grading system to evaluate cystic renal lesions as benign or probably malign. Cystic renal lesions were categorized into four groups according to computed tomography (CT) findings. Then, a fifth category called 2F was introduced to evaluate indeterminate cystic lesions. In 2004, Israel et al. (1) published a study on the use of magnetic resonance imaging (MRI) in evaluating cystic renal lesions. They concluded that MRI had some advantages over CT due to high contrast resolution and it had ability to define internal structures of cystic lesions but it had a risk for overestimation of cystic renal lesions. A few cases have been reported in which MRI changed the management of the patients. Kim et al. (2) described some lesions classified as II or II-F on CT, however, later, they were confirmed to be category IV on MRI and were proven to be malignant pathologically. In this retrospective study, the authors aimed to compare the ability of MRI and CT to differentiate malignant from benign cystic renal lesions based on the Bosniak classification. A total of 37 patients with 42 cystic lesions were included in this study and all the lesions were scanned both by CT and MRI during a 6-month follow-up. All CT and MRI images were reviewed by two abdominal radiologists working independently. They were blinded to clinical and pathological information and outcomes. First, both readers evaluated the first modality performed for that patient, CT or MRI, and two months later, the other modality. In 25 of 42 cystic renal lesions, the Bosniak category was the same on both CT and MRI. In 2 lesions, CT category was higher than MRI category because MRI did not show calcifications in those lesions. In the remaining 15 lesions, MRI category was higher than CT. The management of the lesion was changed in 7 of those 15 lesions. Since the Bosniak classification was described in 1986, CT findings have been accepted reliable technique to manage cystic renal lesions. This study showed that MRI was better to show internal structures in complex cystic renal lesions. In that series, the classification of 3 lesions was determined as III or IV while they were classified as lower grade according to the CT findings, however, no malignancy was found in these masses. The interobserver agreement of MRI and CT was excellent. The authors concluded that when CT and MRI were compared for the Bosniak classification to evaluate cystic renal masses, MRI lead to change in Bosniak category and to manage the lesions in significant proportion of the patients. MRI has superior contrast and soft tissue resolution compared to CT. This study has some limitations and further studies are needed to evaluate the use of MRI in the evaluations of complex renal cystic lesions.

References

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