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Diffusion-weighted MRI in assessment of renal dysfunction

Dear Sir,

We read the interesting article of Goyal *et al*., titled "Diffusion-weighted MRI in assessment of renal dysfunction," which was published in the August 2012 issue of the journal.[1] The study included fairly important information which was very useful for us. However, we would like to make a few contributions.

In this study, ADC measurements were calculated irrespective of renal medulla and cortex. Due to the histopathologic differences of renal medulla and cortex, the ADC measurements may vary between normal and patient groups.[2,3] If this distinction had been made, we think that the cut-off ADC values described in this study may change.

The reasons for differences in parenchymal diffusion are renal perfusion differences, glomerulosclerosis, tubular atrophy, and interstitial fibrosis, which were found on comparing healthy people and patients with renal failure.[1] With comparative studies, renal perfusion with low *b* values (like 50 s/mm^2) and the other reasons with high *b* values (>500 s/mm^2) can be assessed more accurately. Thus, the state of the kidney perfusion and fibrosis can be considered separately. We think that this determination may show the way to stage renal failure and treatment, and also may be an issue for further studies.

In this study, ADC measurements were calculated with two *b*-values (0 and 500 s/mm^2). But it is recommended that ADC values should be measured with at least with three *b*-values (such as 0, 50, and 500 s/mm^2), so that the ADC values and cut-off values can be determined more accurately.

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