

Letter to the Editor

Is diffusion-weighted imaging useful for differentiation between Graves' disease and Hashimoto thyroiditis?

Dear Editor,

We have read the interesting article of Ozturk et al, named "The role of diffusion weighted MR imaging for differentiation between Graves' disease and Hashimoto thyroiditis" which was published in the August 2015 issue of the journal¹. The study included fairly important information which was very useful for us. However, we would like to make a few contributions.

Differentiation between Graves' disease (GD) and Hashimoto's thyroiditis (HT) is easy in clinical practice. As mentioned in the article, GD is a disorder characterized by hyperthyroidism, while HT is associated with hypothyroidism². Physical examination and laboratory tests that measure the levels of thyroid hormone (thyroxine, or T4, and triiodothyronine, or T3) and thyroid-stimulating hormone in the blood are necessary for the evaluation of these diseases. The clinical and laboratory findings of these two conditions differ significantly. The diagnosis of HT is made easily with the hormone profile, presence of autoantibodies against thyroid peroxidase in blood and ultrasonographic examinations. GD is associated with thyrotoxicosis, and thyroid scintigraphy should be the first imaging examination to be performed for the differential diagnosis. Ultrasonography and elevated levels of thyroid autoantibodies may also contribute to the diagnosis. Scintigraphy is not being used in the clinical practice neither for the diagnosis of HT nor the discrimination between these two diseases. Concordantly, diffusion-weighted imaging (DWI) would not make any contribution to the differential diagnosis of these two diseases.

DWI should be performed by using fat suppression techniques. Generally, short tau inversion recovery (STIR) sequence is used for fat suppression in DWI of the neck. Fat suppression technique used in this study was not mentioned in the article (SPAIR? FS?). Moreover, b-value of 0 s/mm² should be added to the b-values used in the study in order to prevent errors. It was mentioned in the article that ADC value was calculated according to each b value automatically by the device. We would like to indicate that this option is not present in most of the MRI devices and ADC values are calculated manually according to each of the b-values.

In the article, it was mentioned that ADC values of GD are higher than those of HT with low b-values. We suppose that this ADC difference in GD with low b-values is mainly due to increased vascularity and perfusion rather than the increase of water diffusion in the tissue. Absence of significant difference between T2-weighted images of the two diseases corroborate this theory.

Conflict of Interest

The Authors declare that they have no conflict of interests.

References

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