Author's response to reviews

Title: Diffusion-weighted imaging: a valuable aid for the determination of the margin of breast carcinoma

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Advances in Knowledge:

1. In our present study we first applied diffusion weighted imaging (DWI) to compare the apparent diffusion coefficient (ADC) value of malignant tumor with that of the peripheral tissue.

2. We found that from the center of tumor to its peripheral tissue, the ADC values gradually increased and 10 mm away from the margin (we called it anatomic margin) of tumor which was displayed in routine magnetic resonance imaging (MRI) outwards, there existed another margin, which we regarded as the so-called molecular margin.

3. Thus, the excision scope should be at least 10 mm from the anatomic border so that the excision can be complete.

The Implications for Patient Care:

1. DWI can detect the breast carcinoma and its boundary precisely, especially in molecular perspective, for the optimization of the efficacy of conservative surgery both in terms of local control and cosmetic results.

2. EPI-DWI will be a helpful diagnostic method for the clinical surgeon to decide the scope and pattern of operation in the field of conservative breast surgery.