SIMULTANEOUS TRIPLE−REGISTRATION OF ICTAL SPECT, INTERICTAL SPECT AND MR IMAGES FOR EPILEPSY STUDIES: METHOD AND VALIDATION (ThuPmOR2)

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Abstract :

Subtraction of ictal and interictal SPECT images is known to be successful in localizing the seizure focus in presurgical evaluation of patients with partial epilepsy. Computer−aided method for producing subtraction ictal SPECT coregistered to MRI (SISCOM method) is commonly used. There are two registrations involved in SISCOM: between the ictal−interictal SPECT images, which was shown to be more critical, and between the ictal image and MRI. The aim of this paper is to improve registration accuracy of ictal−interictal registration in SISCOM by registering all three images (ictal, interictal SPECT, MRI) simultaneously.

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*** Abstract : (cont.)**

The results of the simulation study demonstrates that, in surface−based registration, triple−registration method results in smaller ictal−interictal SPECT registration error than the pairwise registration method (p<0.05) for a

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