

## Divided acquisition of cerebral blood flow data in steady state method

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### Abstract

One of the measurements of CBF is steady state method. It is easy method for PET, but it needs no less than 2 hours. During the PET study, it is hard for most patients to stay still and keep stable breathing. It is said that steady state method is affected by patient respiration terms and conditions. We pursue the way in which PET quantity values are to be accurate even when patient's respiration condition is unstable.

This time we considered how the CBF quantitative values vary according to patients' breathing conditions. Usually data acquisition time of steady state method is 600sec. In this study, we divided the time into three, 200 seconds each.

Result: The fluctuation range of CBF quantitative values was within 5% when the patient's respiration was kept steady. In case of patients with unsteady breathing, the value variation was more than 20%. PET CBF images usually include those quantitative fluctuations. It was found that more accurate CBF quantification can be expected by dividing the acquisition time with lowering the variation due to patient's breathing.