Clinical Application of Perfluobutane Microspheres (SONAZOID) for the Parathyroid Gland

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Purpose: Availability of SONAZOID in ultrasonography for abdominal organs has been commonly recognized. In the present study we examined availability of SONAZOID to distinguish parathyroid from thyroid especially in a process of percutaneous ethanol injection therapy (PEIT) for parathyroid.

Objects: 20 cases of secondary hyperparathyroidism with enlarged parathyroid gland were studied.

Methods: A single dose of 0.015mL/Kg SONAZOID was injected intravenously. Focus position was set in the lower hem of the lesion. Blood flows were examined following two minutes from the SONAZOID injection under the conditions; Harmonic B-mode, MI 0.4, frame rate 8~20fps. The contrast echography was carried out before and after PEIT. And three-dimensional contrast echography was also studied.

Results: SONAZOID exhibited good contrast enhancement in all patients who represented no blood flow in power Doppler examination. Enlarged parathyroid glands presented diffuse contrast enhancement which was sufficient to distinguish them from thyroid tissue. After PEIT, the contrast enhancement disappeared, but the remaining parathyroid tissue identifiable using the three-dimensional contrast ultrasonography. Additional PEIT was able to be done successfully using these three-dimensional images.

Conclusions: Clinically, contrast enhancement of parathyroid gland with SONAZOID was useful in distinction of thyroid nodules and enlarged parathyroid. And it was also useful in evaluation of PEIT effects.