EVALUATION OF IN-111-OXINE PLATELET SCINTIGRAPHY IN DIAGNOSIS OF THROMBUS.

Mie University School of Medicine, Tsu, Mie.

In-111-oxine platelet scintigraphy was performed to assess its clinical utility for diagnosis of thrombus in 63 patients with various cardiovascular diseases. Platelet was labeled by modified Hayashida's method. In addition to imaging in the anterior, left anterior oblique 45°, and left lateral views, single photon emission computed tomography (SPECT) in some cases were performed at 24 and 72 hours after labeled platelet injection. Thrombus was documented in 26 out of 63 cases with X-ray angiography, X-ray CT and two-dimensional echography. 18 out of 26 cases with thrombus had positive images in scintigraphy (Sensitivity 69%), and all of 37 cases without thrombus had negative images (Specificity 100%). In 52 cases with cardiac disease, 5 out of 6 cases with false negative images had been received antiplatelet and/or anticoagulant, and their platelet and coagulation study tended to be lower compared with those of true positive cases and true negative cases. We conclude that In-111-oxine platelet scintigraphy has clinical utility not only for the detection of thrombus but also for the estimation of its activity and effect of medical therapy.

EVALUATION OF IN-111-OXINE PLATELET SCINTIGRAPHY IN DACRON BIFURCATION GRAFT.

Osaka University Medical School, Osaka, Osaka.

For evaluating the thrombogenicity of Dacron bifurcation graft, we developed a method which allows semiquantitative analysis of the degree of platelet accumulation in vivo. Twelve normal volunteers and 18 patients with Dacron bifurcation graft were examined. Using In-111 platelets and Tc-99m HSA scintigraphy, the degree of platelet accumulation was expressed as the ratio of radioactivity of the platelets deposited on the vascular wall to those circulating in the blood pool (PAI; platelet accumulation index). In this study, we explored the PAI value at the entire graft and in each pixel (PAI images). Platelet accumulation was more accelerated in patient group than normal one. PAI values over the entire graft increased with aging of the graft, and finally it reached control value. When images were analyzed locally by the PAI images, the areas with high platelet accumulation were decreased with aging of the graft. In patients whose graft had malfunction, this natural history of the spontaneous normalization of platelet accumulation was not observed, i.e., focal uptake of the platelets were prominent at the proximal anastomosis of the graft.

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