COMPARISON OF THE AREA OF INFARCTION ON THE Tc-99mPYP MYOCARDIAL SCINTIGRAMS IN THE DRUG-TREATED GROUPS AND HISTOPATHOLOGICAL FINDINGS. S.Abe, N.Akaba, Y.Kobayashi, J.Yamashita, K.Tsubouchi, H.Takahashi, S.Kiyomi, M.Kinami, H.Amari, K.Kimura, S.Konno, Y.Nagai, Y.Kaneko, N.Yasota, C.Ibuki, Y.Morishita, T.Kachiya, H.Sassa, Y.Murayama*. The 2nd Dept. of Interm. Med. and the Dept. of Radiology*. The thirty-three mongeosal dogs weighting 10 to 15Kg were used. Myocardial infarction was experimentally produced by left coronary anterior descending branch. After the ligation of the celiac arch, the chest was closed, and 9 of the dogs so operated were allowed to survive 1 week as the ligation group. 8 other dogs likewise operated were medicated with coenimeglo as the Co group. Another 8 dogs similarly operated on were dosed with GIK as the GIK group. The other 8 dogs operated on were medicated with Co and GIK as the GIK group. The area of infarction on the isolated heart was measured by Tc-99mPYP myocardial scintigraphy. The area of infarction measured in the Co group reduced with statistical significance, compared with those in the ligation group. However, in the GIK and GIK groups, the area of infarction showed a tendency to the reduction without statistical significance, compared with the values in the ligation group. Histopathologically, in the Co group, the formation of granulation tissue and fibrosis generally are relatively uniform and monotonous, clearly demarcated from the normal tissue, and in another groups, very similar to those in the ligation group.

The findings of myocardial scintigraphy were compared with those of autopsy in 10 cases in order to estimate the accuracy of myocardial perfusion imaging. The basal area of posterio-lateral and antero-septal walls couldn't be observed by conventional myocardial imagings and couldn't be compared to the findings of autopsy. Myocardial infarction of massive type and trans-mural type was found to show apparent perfusion defect in myocardial scintigraphy. On the other hand, myocardial infarction of scattered type or subendocardial infarction tends to display hypo-perfusion in myocardial scintigraphy. In generally the evaluation of location and extension of myocardial infarction by myocardial scintigraphy has good agreement to that of autopsy in 10 cases.


To evaluate the validity and limitation of TI-201 myocardial scintigraphy in detection of myocardial infarction (MI), 119 patients (pts) with clinical evidence of MI were studied. TI-201 myocardial scintigrams were visually assessed by three physicians knowing no clinical findings. Detection rate (DR) of hyperperfusion was 59% in pts with max.CPK value less than 200 mU/ml, 82.8% in pts with max.CPK value from 201 to 500 mU/ml and 100% in pts with max.CPK value more than 501 mU/ml. DR did not correlate with the period after onset of MI. TI-201 myocardial scintigraphy and Tc-99m-PYP myocardial scintigraphy showed a similar diagnostic scintigraphy in optimal period after onset of MI showed a similar diagnostic ability. TI-201 myocardial scintigraphy failed to demonstrate hypoperfusion in only 13.5% (2/15) of pts with asynergic areas detected by contrast cine ventriculography showed hypoperfusion in 60% (3/5) of pts with no evidence of asynergy.