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COMPARISON OF THE AREA OF INFARCTION ON THE Tc-(99m)PYP MYOCARDIAL SCINTIGRAMS IN THE DRUG-TREATED GROUPS AND HISTPATHOLOGICAL FINDINGS.

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The thirty-three mongoreal dogs weighting 10 to 15Kg were used.Myocardial infarction was experimentally produced by left coronary anterior descending branch.After the ligation,the chest was closed,and 9 of the dogs so operated on were allowed to survive 7 days as the ligation group. 8 other dogs likewise operated on were medicated with coenzimeQ10 as the CoQ10 group.Another 8 dogs similarly operated on were dosed with GIK as the GIK group. The other 8 dogs operated on were medicated with CoQ10 and GIK as the GIKQ group. The area of infarction on the isolated heart were measured by Tc-99mPYP myocardial Scintigraphy. The area of infarction measured in the CoQ10 group were reduced with statistic significance, compared with those in the ligation group. However,in the GIK and GIKQ groups,the area of infarction showed a tendency to the reduction without statistic significance,compared with the values in the ligation group. Histpathologically,in the CoQ-10 group,the formation of granulation tissue and fibrosis generally are relatively uniform and monotonous,clearly demarcated from the normal tissue,and in another groups were very similar to those in the ligation group.

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EVALUATION OF Tc-99m PYP MYOCARDIAL SCINTIGRAPHY FOR DIAGNOSIS OF ACUTE NON TRANSMURAL MYOCARDIAL INFARCTION.

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Definite and regional diagnosis of acute nontransmural myocardial infarction are more often than not difficult, since the characteristic findings in ECG seldom appear. In this report, usefulness of the Tc-99m PYP myocardial scintigraphy was investigated on respective 20 and 65 patients with nontransmural and transmural acute myocardial infarction and on 22 patients with unstable angina pectoris, during the period from Jul.1977 to Jun.1981.
The scintigraphically positive ratio was 13.6, 90.0 and 92.3% on unstable angina pectoris, nontransmural and transmural myocardial infarction,respectively. P-CPK level showed the higher value in the order of diffuse-, localized- and doughnut-type of hot lesion. A positive correlation between P-CPK level and the region of infarcted area estimated from the scintigram was observed on both of transmural and nontransmural myocardial infarction. On the other hand, no correlation was observed between P-CPK level and thallium score estimated from the Tl-201 myocardial scintigraphy. From the avobe, Tc-99m PYP myocardial scintigraphy proved to be the most useful tool, for the definite and regional diagnosis of acute nontransmural myocardial infarction, and for rough estimation of the spread of infarcted area.

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EVALUATION OF ACCURACY IN DIAGNOSIS OF MYOCARDIAL INFARCTION BY MYOCARDIAL SCINTIGRAPHY- COMPARISON OF MYOCARDIAL IMAGING WITH AUTOPSY.

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The findings of myocardial scintigraphy were compared with those of autopsy in 10 cases in order to estimate the accuracy of myocardial perfusion imagings. The basal area of postero-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.

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EVALUATION OF VALIDITY AND LIMITATION OF Tl-201 MYOCARDIAL SCINTIGRAPHY IN DETECTION OF MYOCARDIAL INFARCTION.

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To evaluate the validity and limitation of Tl-201 myocardial scintigraphy in detection of myocardial infarction(MI), 118 patients(pts) with clinical evidence of MI were studied. Tl-201 myocardial scintigrams were visually assessed by three physicians knowing no clinical findings. Detection rate (DR) of hypoperfusion 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 501mU/ml. DR did not correlate with the period after onset of MI. Tl-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. Tl-201 myocardial scintigraphy failed to demonstrate hypoperfusion in only 13.6% (2/21) of pts with asynergic areas detected by contrast cine ventriculography showed hypoperfusion in 60%(3/5) of pts with no evidence of asynergy.