484

RADIONUCLIDE(^{99m}Tc-MAA) DISTRIBUTION OF INTRAARTERIAL INFUSION IN HEAD AND NECK CANCER. Y.Mezawa,J.Muto,H.Yamazumi,M. Mashimo*,T.Miyamae*,O.Iseya* and K,Suzuki*. Department of Otolaryngology and Department of Radiology*, Saitama Medical School, Saitama.

Intraarterial chemotherapy for head and neck cancer has been tried for several years. The distribution of agents has been determined so far by infusing various dyes through a catheter and observing the stained part macroscopically. However, it is difficult to obtain information on the part that cannot be macroscopically observed and to determine the difference in the distribution when the rate of infusion changes.

In the present study,^{99m}Tc-macro-aggregated-albumin(MAA) was injected by using a catheter for intraarterial infusion, and the distribution of the antineoplastic agent was studied.

Two to five mCI of MAA was injected into patients with laryngeal cancer, cancer of the tongue, cancer of the paranasal sinus and cancer of the tonsil. Changes in the distribution due to different rates of infusion and information on the part which could not be observed with any dye could be observed or obtained.

These results suggest that it would be useful to inject ^{99m}Tc-MAA through a catheter for intraarterial infusion and to obtain information on the distribution of the intraarterial chemotherapy.

485

RADIONUCLIDE(Tc-99m MAA) LOCALIZATION OF INTRAARTERIAL INFUSIONS IN HEAD AND NECK CANCER ——PART 2,BIOCHEMICAL ARTERIO-VENOUS SHUNT ——. M.Mashimo,Y.Mezawa,T.Miyamae, O.Iseya,K.Suzuki,J.Mutou and H.Yamazumi. Saitama Medical School,Moroyama,Iruma, Saitama.

Twelve patients were studied using Tc-99m MAA for evaluation of drug distribution during intraarterial treatment of advanced head and neck cancer.

As intense diffuse uptakes of Tc-99m MAA were seen in both lungs of all patients, their uptakes suggested the arterio-venous (A-V) shunts in head and neck regions. The rates(%lung count/whole body count) of the A-V shunts on the average of ten patients had exactly catherters placed at the areas of the external carotid arteries were 57 %.

We expected that the A-V shunts were caused by the intratumor's shunts at first. But in a case with the cancer of the tonsil, the shunt rate didn't decreased though the tumor had disappered after intraarterial treatment. In another case with the cancer of the left maxilla, the shunt rate of the normal right side was recognized about equal to that of the affected left side in the area of the external carotid artery.

Therefore,we inferred that their A-V shunts were biochemical shunts.

As for the investigation of the A-V shunt size in the area of the external carotid artery, the shunt rates were 60.9 % using Tc-99m MAA(a mean particle size,16μ),were 34.4 % using Tc-99m MISA(a mean particle size,34μ) on the average of three patients.

487

NONINVASIVE ASSESSMENT OF AORTIC ELASTICITY BY RADIONUCLIDE ANGIOGRAPHY. M. Shimojo, N. Tsuda, K. Kimura, T. Iwasaka, M. Inada, K. Matsumoto, S. Natsuzumi, T. Shiraishi. Kansai Medical University and Kori Hospital, Osaka.

To investigate the clinical significance of the aortic elasticity in relation with the aging process and pulse wave velocity (PWV), we utilized the multiple gated equilibrium radionuclide angiography (RA) using Tc-99m-RBC in 108 patients with arteriosclerotic diseases, ages 19 - 86 years old. The ratio of aortic volume change ($\Delta V/Vo$) was calculated by the maximum (Ao max) and minimum counts (Ao min) in the regions of interest of the aortic arch: $\Delta V/Vo$=Ao max-Ao min/Ao min. The volume elasticity (Ve) and distensibility (Vd) were calculated to evaluate the aortic elasticity: Ve=pulse pressure (ΔP)/$\Delta V/Vo$, Vd=$\Delta V/Vo/\Delta P$. $\Delta V/Vo$, Ve and Vd showed significant correlations with PWV. $\Delta V/Vo$ and Vd decreased with aging and Ve increased with aging significantly. After the provocation of Nifedipine, the $\Delta V/Vo$ increased in most cases but the change was small in the group over 70 years of age. In the group over 70,.systolic pressure was higher than in younger groups. These result indicate that a decrease in aortic elasticity with aging is one of the factors which cause the elevation of systolic pressure in the aged. We conclude that the $\Delta V/Vo$, Vd and Ve are useful noninvasive indicies to investigate the aortic elasticity and compliance.

488

SCHEMATIC REPRESENTATION OF COLLATERAL PATHWAYS IN SUPERIOR VENA CAVAL OBSTRUCTION (PART 2). T.Muramatsu,M.Mashimo,K.Suzuki, K.Nishimura,M.Ide,S.Kinoshita,Y.Dohi and T.Miyamae. Saitama Medical School, Moroyama, Saitama.

The purpose of this study was to discuss the relation of the various collateral pathways and the situation of superior vena caval (SVC) system's obstruction. In the last time, we reported of the obstruction of the subclavian vein and innominate vein. In this report we confine our attention to the obstruction of SVC. The occluded areas were classified into including the entrance of azygos vein(GroupA) and excluding one (GroupB). GroupA was I5 cases. and mainly visualized collateral pathways were the azygos system via the posterior intercostal veins (33%). In case of SVC stenosis, Internal mammary systems via the anterior intercostal veins tended to more visualize. GroupB was only one case. The collateral pathway was along the anterior trunk, which drain into the inferior vena cava via the lateral thoracic vein or internal mammary vein.

When it is doubtful whether including the entrance of azygos vein or not, the observation of development of collateral pathways was useful to the diagnosis.