1716

DOUBLE SYRINGE FOR RI ANGIOGRAPHY-OUR NEW DEVICE FOR BOLUS INJECTION.

T. Hasegawa K. Sakano, M. Katayama* Department of Radiology, Kawasaki Municipal Hospital, Kawasaki. Department of Radiology, Showa Medical College, Tokyo*

Our newly deviced bipolar needle double syringe is designed for one shot continuous flushing of contrast media and normal saline solution without delay in case of Radionuclide angiography.

The double syringe is disposable which is made of polypropyrene rasin and set by the side hole bipolar needle. Double syringe is consisted of the outer apparatus for RI injection and the inner apparatus for normal saline solution injection of 20ml in volume.

By using this double syringe the momentary one shot injection of RI bolus and normal saline solution is possible by pressing the plunger without delay.

In addition conventional syringe shield is applicable and exposure of the manipulating fingers to gamma ray is also controlled wihtin minemum level by using the winged infusion set.

The total manipulation is simple and one technitian is required to complete the whole procedure in comparison with the three-way-stopcock procedure.

1717

DEVELOPMENT OF LONGITUDINAL TOMOGRAPHIC IMAGING SYSTEM.

M.Matsumoto, H.Bussaka, K.Fukui, T.Yasunaga, Y.Hirota, H.Yoshii, M.Takahashi and M.Kakegawa. Colleg of Medicale Science, Kumamoto University, Depertment of Radiology, Kumamoto University Medicale Schoole and Toshiba Co., Kumamoto and Otawara.

A whole body imaging system using gamma camera was improved to obtained a longitudinal tomographic image of whole body or patial one, and therefore tomographic focussing collimator was designed and constructed.

The focus of this trial collimator is not point, but a straight line with 26 cm in vertical direction to scanning direction. This new collimator has following specifications; material:lead, thickness:54 mm, hole diameter:3 mm, Maximum angle between hole axis and collimator axis:33°, focal length: 10 cm, efficiency:210 cpm/μCi, γ ray energy: lower than 300 keV. The tomographic image is obtaind with identical method for conventional whole body scan.

The physical characteristics of this tomographic imaging system were experimented with Tc-99m and In-111. The spatial resolution (FWHM) on forcal plane was 8 mm, and those at 2 cm up and down from the focal plane were about 30 mm. Other characteristics (MTF, distribution of sensitivity, detectability, etc.) and the results of clinical applications were published.

The tomographic effect of this system was sufficiently as the resalts of these experiments.

1724

INVESTIGATION ON CSF DYNAMIC FLOW WITH RCT CISTERNOGRAPHY.

Y. Goto, K. Nagai, T. Minezaki, T. Miwa, *H. Murayama Department of Neurosurgery, Tokyo Medical Callege
*Department of Radiology, Tokyo Medical Callege

Biplane Rl cisternography has been used for investigation of CSF dynamic flow in various intracranial lesions. On this time, we matched γ-camera with scintipack 1200, performed RCT cisternogram and practiced a comparative study with Rl cisternography and CT cisternography.

Cases consist of normal pressure hydrocephalus (NPH) and non-NPH group. Through an intrathecal injection of In-111 DTPA and reconstructed horizontal tomographic picture from serial multiview image by used of data processing machine.

1) As for detailed analysis of CSF dynamic flow, three dimentional cisternography capable of taking frontal, lateral and horizontal views was more effective.

2) An image of RCT cisternography was less than one of Metrizamide CT cisternography in quality, it however, afforded more physiological state of CSF dynamic flow. Therefore, we were suggested this method hereafter, is considered to be a useful one in analysing transependymal absorption of CSF in hydrocephalic state.

1725

ARTERIAL PERFUSION SCINTIGRAPHY BY Tc-99m-MAA IN THE PATIENT WITH CARCINOMA OF MAXILLARY SINUS.

H. Suzuki, H. Shibuya and T. Okuyama Department of Radiology, M. Takeda Department of Dental Radiology, Tokyo Medical and Dental University, School of Medicine. Tokyo

Maxillary sinus carcinoma is usually treated by combined modalities of radiation, intra-arterial infusion of 5-FU and necrotomy.

In this study, the precise positioning of the arterial infusion catheter as well as the distribution of the infusion drug were examined by radionuclide technique.

Scintigrams of 12 cases were obtained by manual injection of Tc-99m-MAA 3.7-7.4 x 10^7 Bq into the infusion catheter. Perfusion accuracy to the maxillary sinus of the drug was evaluated by the scintigraphic finding (radionuclide accumulation and distribution); good, fair and poor (4, 5 and 3 cases, respectively).

According to this result, we frequently found out the cases of insufficient perfusion.

This method is noninvasive and carried out repeatedly throughout the treatment course, so that it is useful for the management of the patient with maxillary sinus carcinoma.

When the cannulation is inadequate on this method, catheter tip should be moved **or** re-cannulation must be operated quickly.