The Teflon Needle, Flushing Method on the Radionuclide Angiocardiography in Infants and Children

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Radionuclear angiocardiography is a safety and innocuous screening procedure in infants and children with congenital heart disease, and has been performed in 65 cases at Tokyo metropolitan Kiyose childrens hospital.

To obtain the successful cardiovascular image, several injection method have been performed to produce a good bolus of radionuclide.

1: Tourniquet releasing method: a tourniquet is placed on the arm to induce ischemic vasodilatation and radionuclide is injected rapidly via peripheral vein. Then removal of tourniquet give a bolus of radionuclide.

2: Three way stopcock method: The scalp vein connected by three way stopcock (made by TOP) to the saline and radionuclide syringe is inserted in the antecubital vein. Radionuclide is injected and immediately after injection the vein is flushed with saline.

3: Extension tube method: Extention tube in which the radionuclide is preloaded with saline is connected between the scalp vein needle and saline syringe. Then the radionuclide is injected as a bolus by the flush of saline.

4: Teflon needle, flushing method: Teflon needle of 21G caliber 20 or 30 cm length, is inserted from the antecubital vein into the superior caval vein or subclavian vein, and radionuclide is injected as a bolus using the three way stopcock method or the extention tube method.

As a result, teflon needle, flushing method is the best to obtain a diagnostic cardiac image satisfactorily. Now we use the teflon needle, flushing method as a first choice in infants and children with congenital heart disease and in newborn and premature infants the extension tube method with 23G Medicut needle inserted in the antecubital vein is performed.