80 KV CORONARY CT ANGIOGRAPHY FOR LOW-BODY WEIGHT PATIENTS

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Background: The limitations of CT coronary angiography (CTCA) are the amount of contrast media and radiation dose. Higher tube voltage is recommended for low-body weight patients SCCT guideline. We elucidated the image quality of CTCA using 80 kV of tube voltage in patients with low body weight (60 kg or less).

Methods: Fifty low-body weight (60 kg or less) patients were screened the study. After the test injection using 5 ml of contrast media (CM), patients having 100 HU or more peak attenuation were enrolled. Patients with coronary calcium, low LV function, after coronary artery bypass graft, and congenital heart disease were excluded. MDCT was VCT (GE Medical Systems); tube voltage was 80 kV, and prospective gating. Contrast media was Omnipaque 350 (Daiichi Sankyo Co., LTD), and injector was Dual Shot GX (Nemoto Kyorin-Do). Image quality was decided using 5-point scale independently by two well-trained inspectors.

Results: Height was 158±7 cm (mean±SD), and weight was 55±6kg. Contrast media used was 15±5ml except for test injection. All patients underwent CTCA successfully and mean attenuation was 275±55 HU. Image quality was 4.3±0.4. Unevaluable segment was 4.6 %. Effective dose was averaged 0.78±0.13 mSv.

Conclusions: CTCA for low-body weight (60 kg or less) patients were less-invasively performed with averaged 0.3ml/kgBW of contrast media and less than 1 mSv, using 80 kV of tube voltage.