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## **A Single Center Study on the Time of Chest X-ray in Hemodialysis Patients**

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**Objectives:** In hemodialysis patients, setting dry weight is important. It is difficult to determine accurate dry weight through specific tests. A measurement of cardiothoracic ratio(ct ratio) on chest X-rays is the most commonly performed test. It is recommended to perform cardiac ultrasound after reaching dry weight after hemodialysis. We use chest X-rays to control dry weight, but we are not deeply concerned about the timing of chest X-rays. By comparing the ct ratio of chest X-rays before and after dialysis, we will consider the timing of chest X-rays in hemodialysis patients.

**Methods:** Among 211 patients who underwent hemodialysis at our hospital for 10 days from December 1, 2022, the experiment was conducted on 184 patients, excluding 19 in-hospital patients and 8 patients with underlying problems on chest X-rays. The patient underwent chest X-ray once before hemodialysis at the beginning of the week(Pre-HD ct ratio). During the week when euvolemia was obtained, chest X-rays were additionally performed once after hemodialysis(Post-HD ct ratio). We evaluated the ct ratio twice on each chest X-ray and averaged it. First, the ct ratio before and after hemodialysis was compared and analyzed using the SPSS program. In addition, factors affecting the difference in ct ratio were analyzed.

**Results:** There was a significant difference between the Pre-HD ct ratio( $0.513 \pm 0.058$ ) and the Post-HD ct ratio( $0.491 \pm 0.060$ ,  $P < 0.05$ ). The difference in the ct ratio of chest X-rays was not affected by factors such as interdialytic weight gain, gender, age, dialysis period, and primary renal disease. The ct ratio of chest X-rays was affected by age and hemodialysis period, but not by the entire renal replacement duration, gender, and primary renal disease.

**Conclusions:** There is a difference in the ct ratio of chest X-rays before and after hemodialysis. We should consider doing chest X-rays after hemodialysis.