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CARDIOVASCULAR RISK ASSESSMENT BY CTR IN PATIENTS UNDERGOING MAINTENANCE HEMODIALYSIS

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Objectives : To determine the risk of cardiovascular disease by calculating the cardiothoracic ratio (CTR) patients undergoing hemodialysis treatment at Shinon med Hospital.

Methods : This was an observational study with cross-sectional and including 45 maintenance hemodialysis patients with from 21-74 ages at Shinon med hospital. We included level of phosphorus, hemoglobin and cholesterol as risk factors for cardiovascular disease. CTR was measured by the method of Danzer and we considered CTR <50 is normal and >50 is cardiomegaly. We used SPSS for statistic analyze.

Results : 29 (64.4%) of the patients included in the study were men and 16 (35.6%) were women. The mean age was 49.91 ± 12.2 years, and mean duration of dialysis was 41.91 ± 3.4 months. Heart size by CTR was normal 27 (60%); mild cardiomegaly 4 (8.9%); moderate cardiomegaly 6 (13.3%), severity cardiomegaly 8 (17.8%). Patients with high CTR had low left ventricular ejection fraction (LVEF). Otherwise, a significance strong negative correlation (<0.001) observed between CTR and LVEF. The higher the age on dialysis, the higher the CTR, a strong positive correlation (<0.001).

Conclusions : All patients with risk of cardiovascular disease had high CTR , or cardiomegaly. In every case of cardiomegaly, a decrease in LVEF has been statistically proven to be significant. CTR can detect of cardiomegaly in patients undergoing hemodialysis. CTR could be cheaper diagnostic tool to detect cardiovascular disease among dialysis patients than using the echocardiography.