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CLINICAL ASPECTS OF TROPONIN I AND HIGH SENSITIVITY TROPONIN I IN PERITONEAL DIALYSIS PATIENTS

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Objectives: Cardiac troponin I (TnI) has been preferred in the diagnosis of acute coronary syndrome (ACS) in ESRD patients. However, TnI elevation does not indicate ACS at all times especially in dialysis patients. To make a decision whether do or not to do the coronary work-up for angioplasty is challengeable when the symptomatic (dyspnea, chest pain, palpitation) patients show a mild troponin elevation.

Methods: From March 2010 to September 2017, peritoneal dialysis patients who visited our center were enrolled. Any data about TnI, hsTnI with other parameters were collected. After full medical reviews, the patients group were divided by three; control (no symptoms), symptoms with no ACS and ACS.

Results:

Among 284, 77 patients for TnI and 48 patients for hsTnI were able to analyze with sufficient data. The average TnI was 0.1 ± 0.13 for control (n: 46), 0.12 ± 0.15 for no ACS (n: 22), 0.67 ± 0.98 for ACS (n: 9) (reference value for TnI < 0.5 ng/mL). The average hsTnI was 0.16 ± 0.52 for control (n: 18), 0.44 ± 1.02 for no ACS (n: 23), 1.95 ± 3.22 for ACS (n: 7) (reference value for hsTnI < 0.04 ng/mL). Both TnI and hsTnI were significantly high in ACS group and showed no difference between control and no ACS group. The TnI showed 0.717 of Area under the Curve (AUC) for diagnostic value and 44% sensitivity and 98% specificity over the reference value. The hsTnI showed 0.805 of AUC and 85% sensitivity and 71% specificity over 0.09 ng/mL.

Conclusions: The hsTnI seemed to have more clinical usefulness. Mild elevation of hsTnI dose not need always coronary work-up, however we should pay more attention if the patients' hsTnI are above the 0.09 ng/mL.