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The impact of all-cause mortality of visceral fat and nutritional status in initial dialysis patient

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Objectives: obesity paradox is the archetype of the reverse epidemiology of cardiovascular risks that survival advantage in advanced chronic kidney disease.
In initial dialysis patient, proteinuria and uremic symptoms exacerbate lower albumin that can cause limitation for nutritional status evaluation. A nutrition status evaluation tool such as Subjective Global Assessment (SGA), Geriatric Nutritional Risk Index (GNRI) cannot significantly affect edema and dry weight. Hence, we re-evaluate adipose tissue component for nutrition status. Furthermore, elderly dialysis patients are increasing, the importance of nutrition status in geriatric dialysis issue for Korean society.

Methods: This study is single center study in Daejeon St. Mary's Hospital, Catholic University of Korea. From January 2018 to march 2021, final study population enrolled 119.
We included ESRD, more than 3 months dialysis patient. Exclusion criteria was acute dialysis, less than 3 months dialysis and diagnosed as cancer.
Semiautomatic open source software for measurement of abdominal muscle and adipose areas using computed tomography
software in-house to identify subcutaneous fat, muscle, and visceral fat in CT images for body composition analysis complied by MATLAB version R2014a (Mathworks Inc, Natick, MA).

Results: In this study, divided two group, visceral fat area [VFA(cm2) ≥130, group 1] and [VFA(cm2) <130, group 2]. The CONUT scores were significantly differs in two groups [group1; 3.97±1.92, group 2; 4.48±2.64, (p=0.004)]
VFA and CONUT score negatively correlate (r=-0.186, p=0.043).
K-M survival rate, visceral fat area group 2 was lower the risk of all-cause mortality in initial dialysis patient (p=0.033).

Conclusions: In Kaplan-Meier survival rate, visceral fat area is lower the risk of all-cause mortality in initial dialysis patient.
Obesity paradox and PEW is important issues for ESRD who are initiating dialysis.
Fat mass screening is important tool that can evaluate nutrition status and predict mortality in initial dialysis patient.