

# ANTHROPOMETRIC PARAMETERS AND INFLAMMATORY MARKERS IN HEMODIALYSIS PATIENTS



Crina-Claudia Rusu<sup>1</sup>, Simona Racasan<sup>2</sup>, Alexandra Joia<sup>1</sup>, Ina Kacso<sup>1</sup>, Diana Moldovan<sup>1</sup>, Alina Potra<sup>1</sup>, Laura Motocu<sup>1</sup>, Remus Orasan<sup>2</sup>, Cristian Budurea<sup>2</sup>, Ioan Patiu<sup>2</sup>, Dan Vladutiu<sup>1</sup>, <sup>1</sup>University of Medicine and Pharmacy "Iuliu Hatieganu", Nephrology, Cluj-Napoca, ROMANIA, <sup>2</sup>Nefromed Dialysis Center, Dialysis, Cluj-Napoca, ROMANIA.

## INTRODUCTION AND AIMS

In hemodialysis patients the fat tissue can produce inflammations which leads to atherosclerosis. Multiple studies have researched the relation between the serum albumin and inflammatory markers, but only a few have studied the relation between these markers and anthropometric parameters (also evaluating the fat tissue).

**Aim: To evaluate the relation between nutritional anthropometric parameters (the body mass index (BMI), waist circumference (WC), tricipital skinfold thickness (TST)) and inflammatory markers -classic (CRP and WBC) and new molecules: sCD163, soluble Tumor Necrosis Factor-like weak inducer of apoptosis (sTWEAK), FGF21 (as a metabolic hormone).**

## METHODS

- Cross-section, observational study
- 69 hemodialysis patients from the Nefromed Dialysis Center in Cluj-Napoca.
- Clinical and biological parameters were recorded: C reactive protein (CRP), white blood cells (WBC), sTWEAK, sCD163 and fibroblast growth factor 21 (FGF 21) (ELISA)
- The correlations between BMI, WC, TST and CRP, WBC, sTWEAK, sCD163, FGF21 were evaluated.

## RESULTS

Parameter	CRP (mg/dl)	WBC (n/mm <sup>3</sup> )	sTWEAK (pg/ml)	sCD163 (ng/ml)	FGF21 (pg/ml)
BMI (kg/m <sup>2</sup> )	p<0.001 r=0.35	p=0.01 r=0.30	p=0.53 r=0.08	p=0.40 r=0.10	p=0.07 r=0.22
WC (cm)	p<0.001 r=0.34	p=0.01 r=0.33	p=0.86 r=0.02	p=0.94 r=-0.01	p=0.26 r=0.14
TST (mm)	p=0.02 r=0.29	p<0.001 r=0.39	p=0.57 r=0.07	p=0.02 r=0.28	p=0.03 r=0.26

## CONCLUSIONS

The increased BMI, WC and TST were associated with an inflammatory response determined with the classical markers (CRP and WBC) but less with the new molecules (increase of the BMI was associated with increase of the FGF21 and the increase of the TST with elevated sCD163 and FGF21).

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