

# BODY COMPOSITION IN HEMODIALYSIS PATIENTS COMPARISON OF TWO BIA DEVICES



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## OBJECTIVES

Bioelectrical impedance analysis (BIA) is now largely used in dialysis unit to assess hydration status and body composition. Portable devices are easy to use but results could be variable according to the device used. The aim of the study is to compare the body composition evaluated, at the same time, by two different devices



## PATIENTS and METHODS

We compared the body composition evaluated, at the same time, before an Hemodialysis (HD) session, by Seca Body Composition Analyser (mBCA<sup>®</sup>) and Body Composition Monitor (BCM<sup>®</sup>) in 98 HD patients in stable state, median age 57 years, 66 males 32 females, 55 caucasians, 40 africans and 3 other ethnic group, mean BMI 26 kg/m<sup>2</sup>, albumin 41,5 ± 3,5 g/l, prealbumin 0,30 ± 0,07 g/l, nPCR 1 ± 0,2 g/kg and Kt/V 1,55 ± 0,21. mBCA combine a scale platform with a handrail system and body composition is determined using a 8-electrode segment multifrequency BIA positioned in the device at each hand and foot, the patient standing. Measure with BCM is realized in supine position, using 4 electrode positioned at each hand and foot on the opposite side to the fistula.

## RESULTS

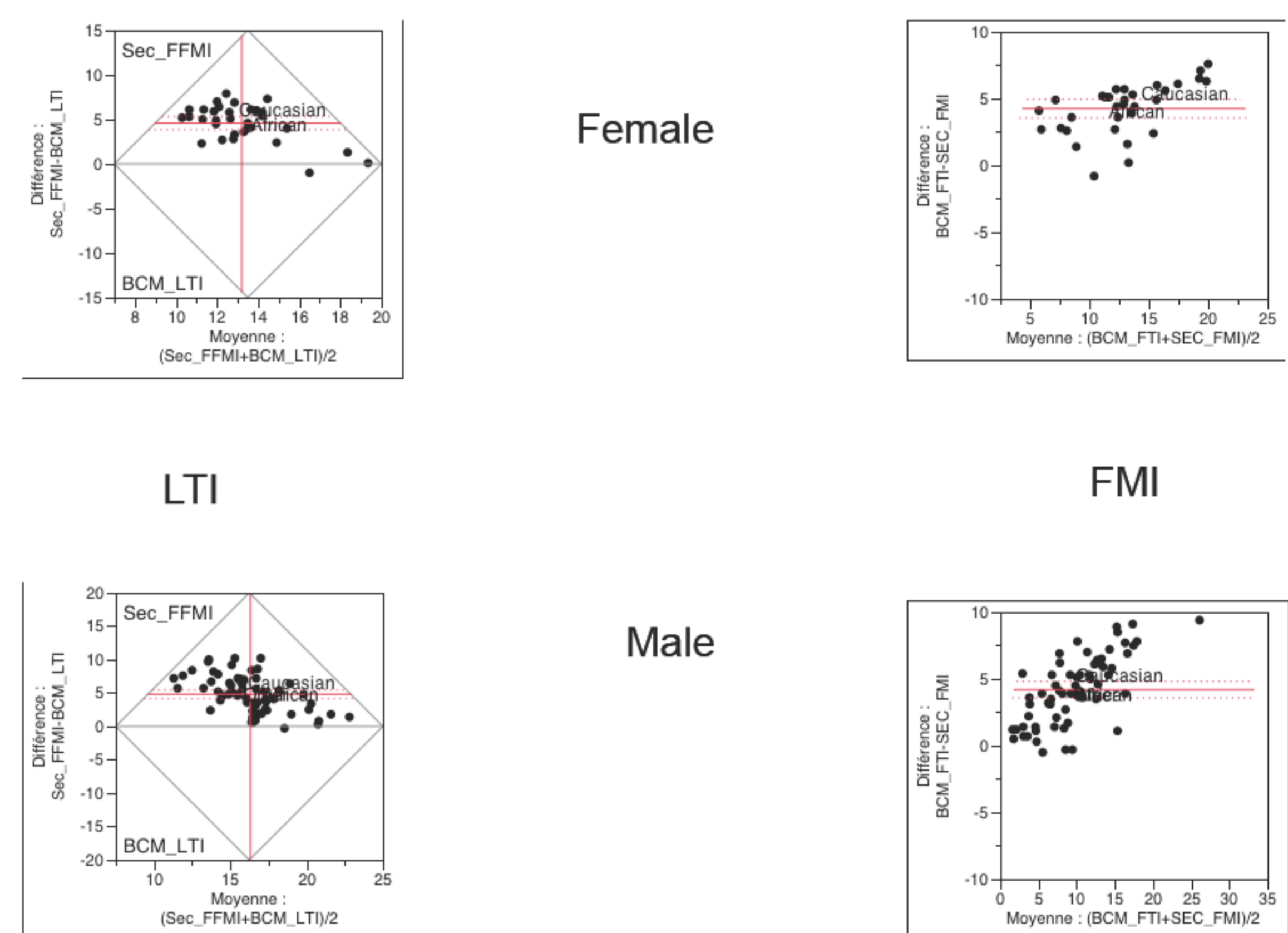
	BCM	mBCA
TBW (L)	35,4 ± 6,71	37,58 ± 7,04
ECW (L)	16,79 ± 2,99	17,7 ± 2,71

	BCM	mBCA
LTM or FFM (kg)	37,19 ± 10,91	50,81 ± 9,83
LTI or FFMI (kg/m <sup>2</sup> )	12,94 ± 3,38	17,69 ± 2,39
FM (kg)	26,34 ± 11,29	23,52 ± 11,18
Adipous Mass (kg)	35,83 ± 15,36	NA
FMI (kg/m <sup>2</sup> )	12,71 ± 5,61	8,41 ± 4,21

	Female		Male	
	BCM	mBCA	BCM	mBCA
LTI or FFMI (kg/m <sup>2</sup> )	10,9	15,5	13,9	18,7
FMI (kg/m <sup>2</sup> )	14,9	10,7	11,6	7,4

Total body water (TBW) and Extra Cellular Water (ECW) analysis showed a good agreement (r=0,82)

There was a significant difference in the evaluation of Lean Tissue Index (LTI) and Fat Mass Index (FMI) between the 2 devices due to different theoretical models.



## CONCLUSIONS

Fluid status evaluation is similar but body composition evaluation, due to different theoretical models, is different between these 2 devices and they cannot be used one instead the other for monitoring nutritional status in HD patients.

