

OVERHYDRATION (OH) PARAMETER OF FRESenius BCM MONITOR DOES NOT PROPERLY SHOW INTERDIALYSIS OVERWEIGHT IN HAEMODIALYSIS PATIENTS.

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INTRODUCTION

- Weight gain interdialysis is the parameter more used to program ultrafiltration in each dialysis session. It has been proposed to monitorize hydration status of patients in haemodialysis employing bioimpedanciometry.
- Fresenius BCM monitor shows degree of overhydration through OH parameter based in the mathematical model of Chamney et al.
- OH parameter has showed to be predictive of mortality in haemodialysis patients.
- However, OH shows important differences to weight gain interdialysis.

AIM

Our aim was analyze these differences and to compare results of BCM monitor to OH parameter based in Chamney model.

PATIENTS AND METHODS

- Patients in haemodialysis in stable clinical situation without signs of cardiac failure.
- We practiced predialysis impedanciometry of mid-week session with BCM monitor.
- We registered dry weight and previous postdialysis weight and calculated weight gain from them.
- We calculated predialysis overhydration with Chamney model (OH-Cha) and collected predialysis overhydration of BCM-monitor (OH-BCM).

RESULTS

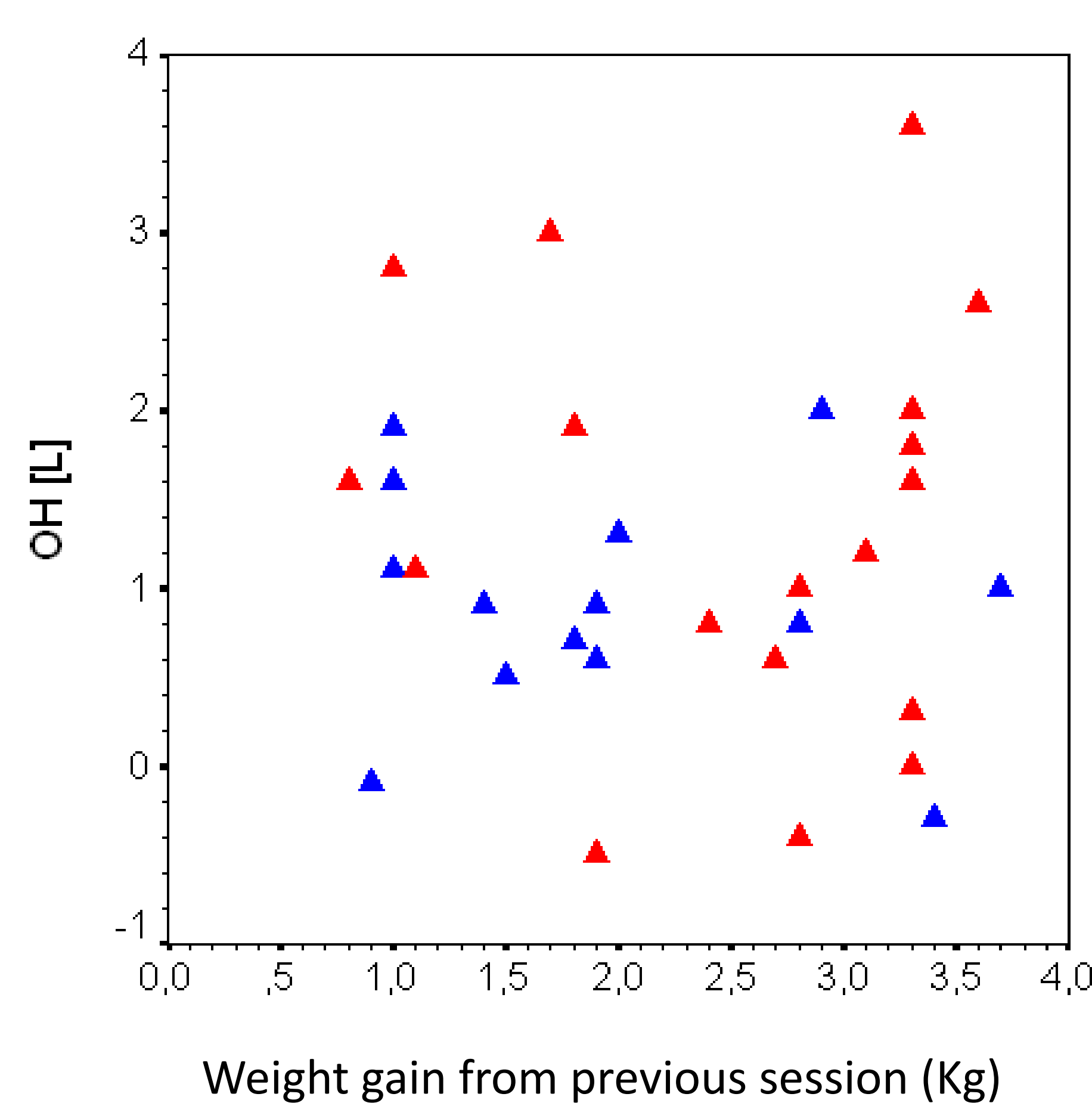
POPULATION

N	33
Sex	19 males/14 females
Age	58±20
Weight (Kg)	72,7±17,6
BMI (Kg/m ²)	27,8±5,2 (19,5-39,5)
Interdialysis gain (Kg):	
- Previous session:	2,27±0,95 (0,8 a 3,7)
- Dry weight:	2,48±1,16 (0,1 a 4,4)
Overhydration OH Fresenius (L)	1,18±0,99 (-1,1 a 3,6) *
Overhydration OH Chamney (L)	2,5±1,4 (-0,5 a 6) **

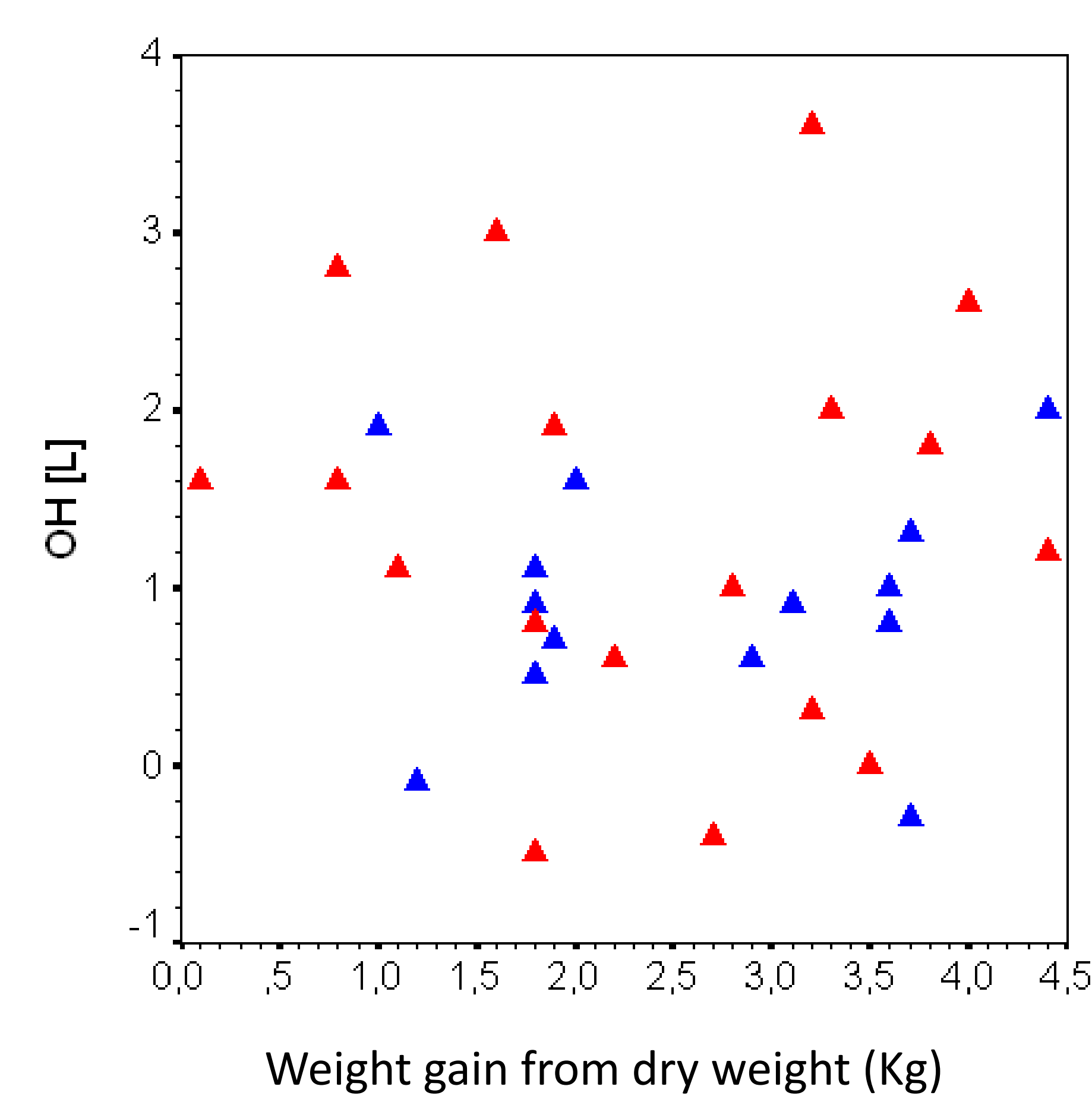
* p<0,001, respect to weight gains.

** p<0,001, respect to OH Chamney.

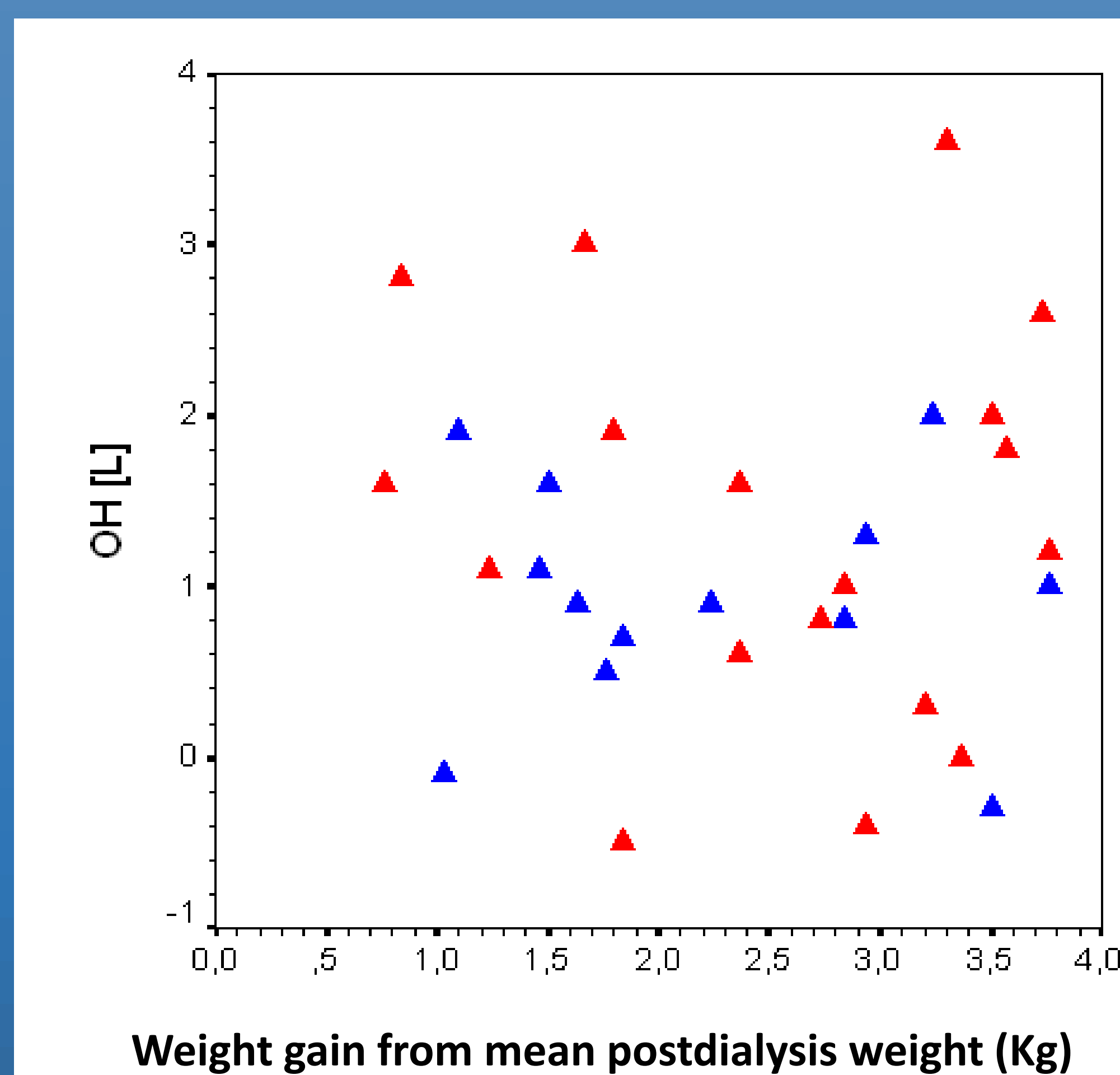
INTERDIALYSIS WEIGHT GAIN FROM PREVIOUS DIALYSIS SESSION AND OH



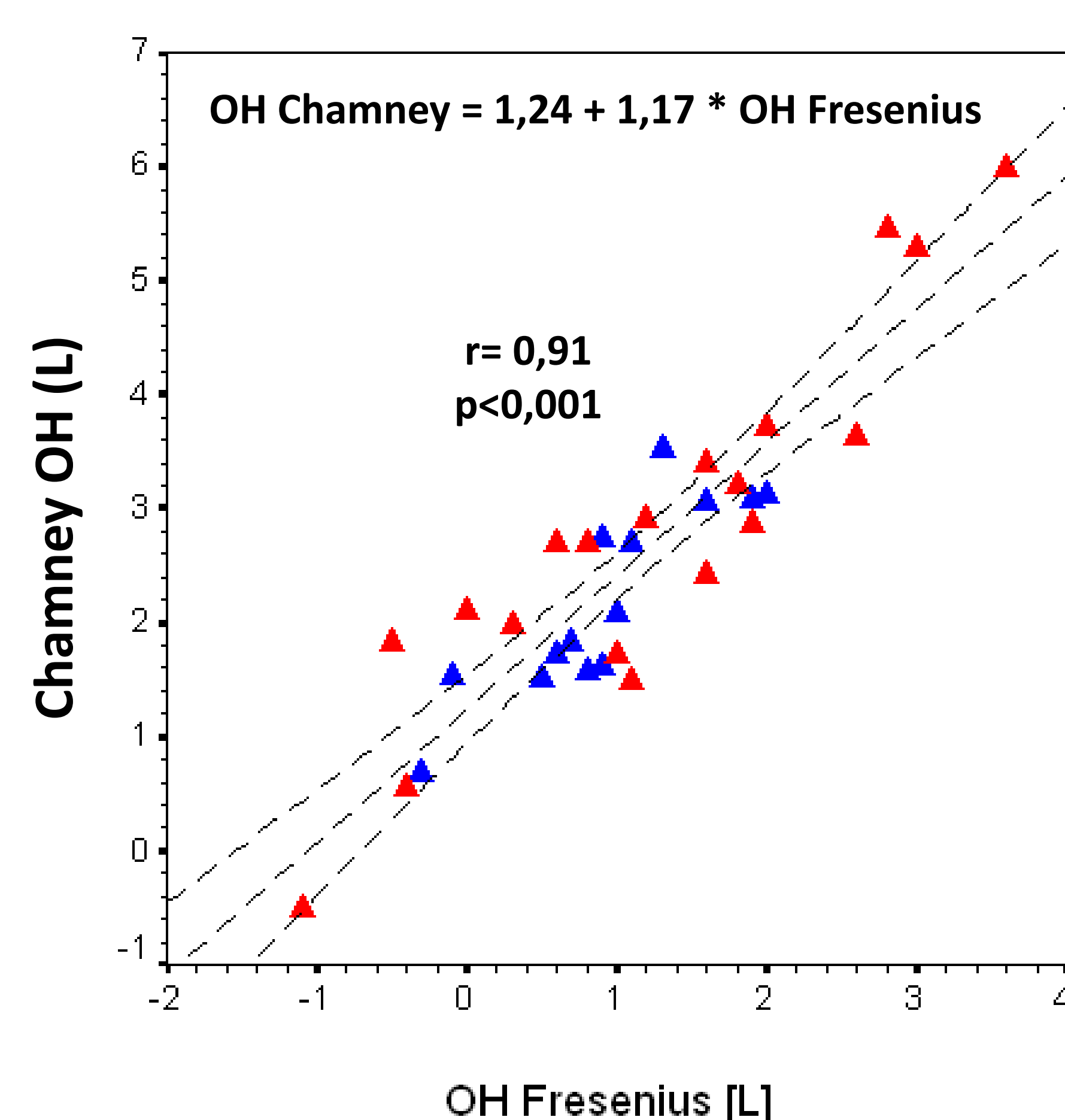
INTERDIALYSIS WEIGHT GAIN FROM DRY WEIGHT AND OH



INTERDIALYSIS WEIGHT GAIN FROM MEAN OF 3 PREVIOUS POSTDIALYSIS WEIGHT AND OH



FRESenius BCM OVERHYDRATION (OH) AND CHAMNEY OH



CORRELATIONS

r (p)	OH Fresenius	OH Chamney	Weight gain
Resistance *	-0,42 (0,014)	-0,67 (<0,001)	0,26 (ns)
Reactance *	-0,55 (<0,001)	-0,71 (<0,001)	-0,23 (ns)
Phase angle *	-0,35 (0,012)	-0,32 (ns)	0,40 (0,02)
Extracel. Res.	-0,49 (0,004)	-0,75 (<0,001)	-0,07 (ns)
Intracel. Res.	0,135 (ns)	-0,075 (ns)	-0,36 (0,044)
ECW/ICW	0,44 (0,011)	0,49 (0,004)	-0,35 (0,051)

* Values at 50 KHz

CONCLUSIONS

- Overhydration (OH) parameter calculated with BCM Fresenius monitor in haemodialysis patients does not show good relation with interdialysis weight gains.
- It should not be used to program ultrafiltration in each dialysis session because will underestimate liquid gain suffered from previous dialysis session or from dry weight.
- OH parameter of BCM monitor is based in a different equation to the model of Chamney et al, and so, it is not validated for estimate excess of extracellular fluid.

