

# End-dialysis overweight and chronic inflammation: a dangerous association.

A 36 month prospective observational study

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## Introduction

Attaining dry body weight is paramount in dialysis practice, but this goal is not always reached.

We hypothesized that the amount of end-dialysis overweight (edOW), could be associated to increased chronic inflammation and mortality.

**Aim of the study:** to evaluate the association of edOW with serum C-reactive protein (hsCRP) concentrations and with survival in a cohort of 182 prevalent HD patients (pts) followed for 36 months.

## Patients and methods

In 182 pts (117 men, age 65±12 years, vintage 48 months; range 6-336).

**Figure 1:** edOW was present in 98/182 (54%) pts. Mean value was 0.4±0.2 Kg (range: 0.1-1.4).

In the 98 pts with edOW (**Group 1**) and in the other 84 (**Group 2**) we evaluated: Ultrafiltration rate(UFR), hsCRP, dry body weight (dBW), Kt/V, protein catabolic rate (PCRn), interdialytic weight gain (IDWG), mean arterial pressure (MAP). Unpaired Student's t test was employed to compare groups, linear regression analysis to test correlations, log-rank test and Kaplan-Meier curves to evaluate survival.

TABLE 1	M±DS
UFR (ml/Kg/ora)	11.7±2.8
dBW (Kg)	64±12
hsCRP (mg/L)	8.8±7.9
Kt/V	1.27±0.09
PCRn (g/Kg/die)	1.06±0.10
IDWG (Kg)	2.8±0.4
MAP(mmHg)	97±6.5

Patients with and without edOW

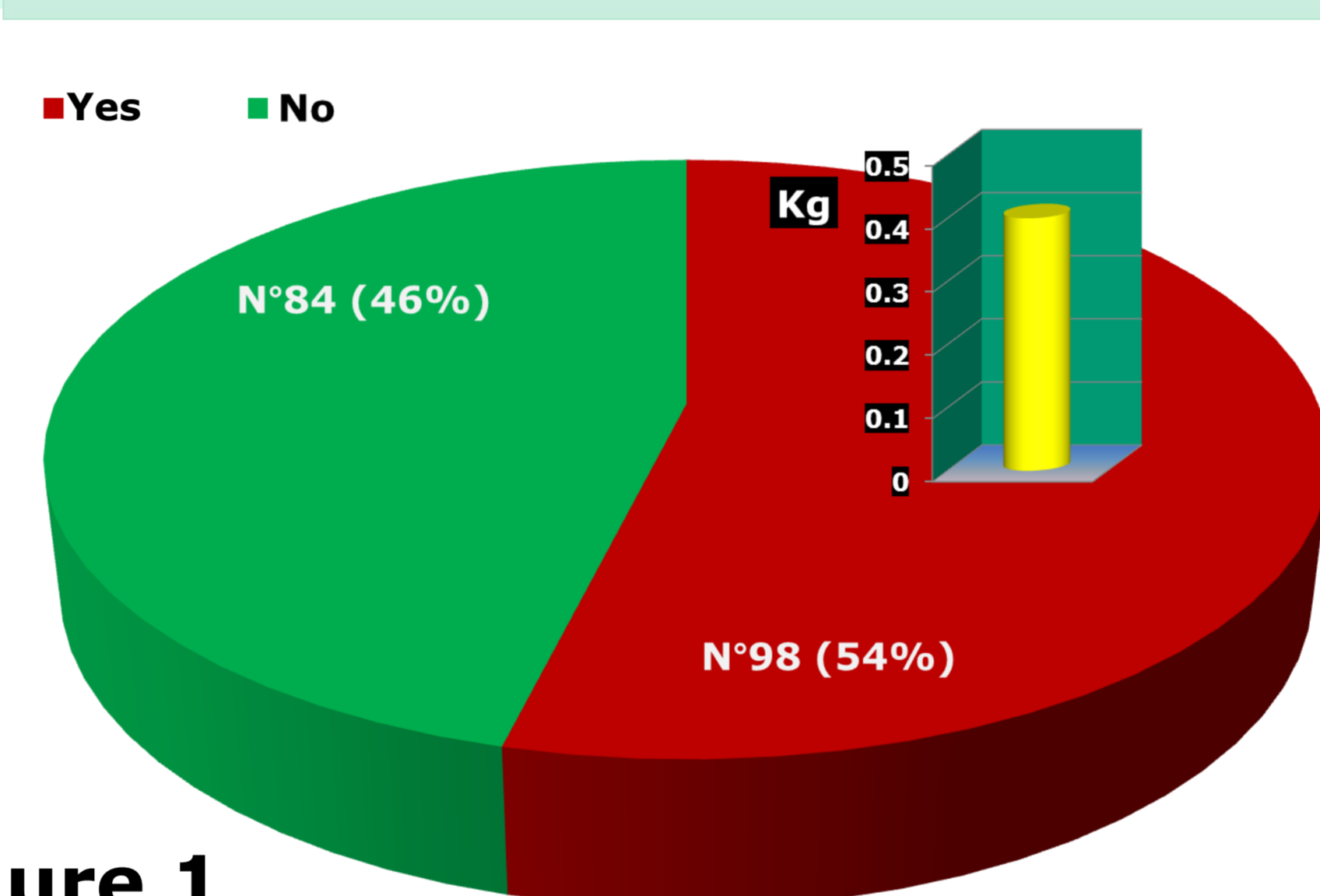


Figure 1

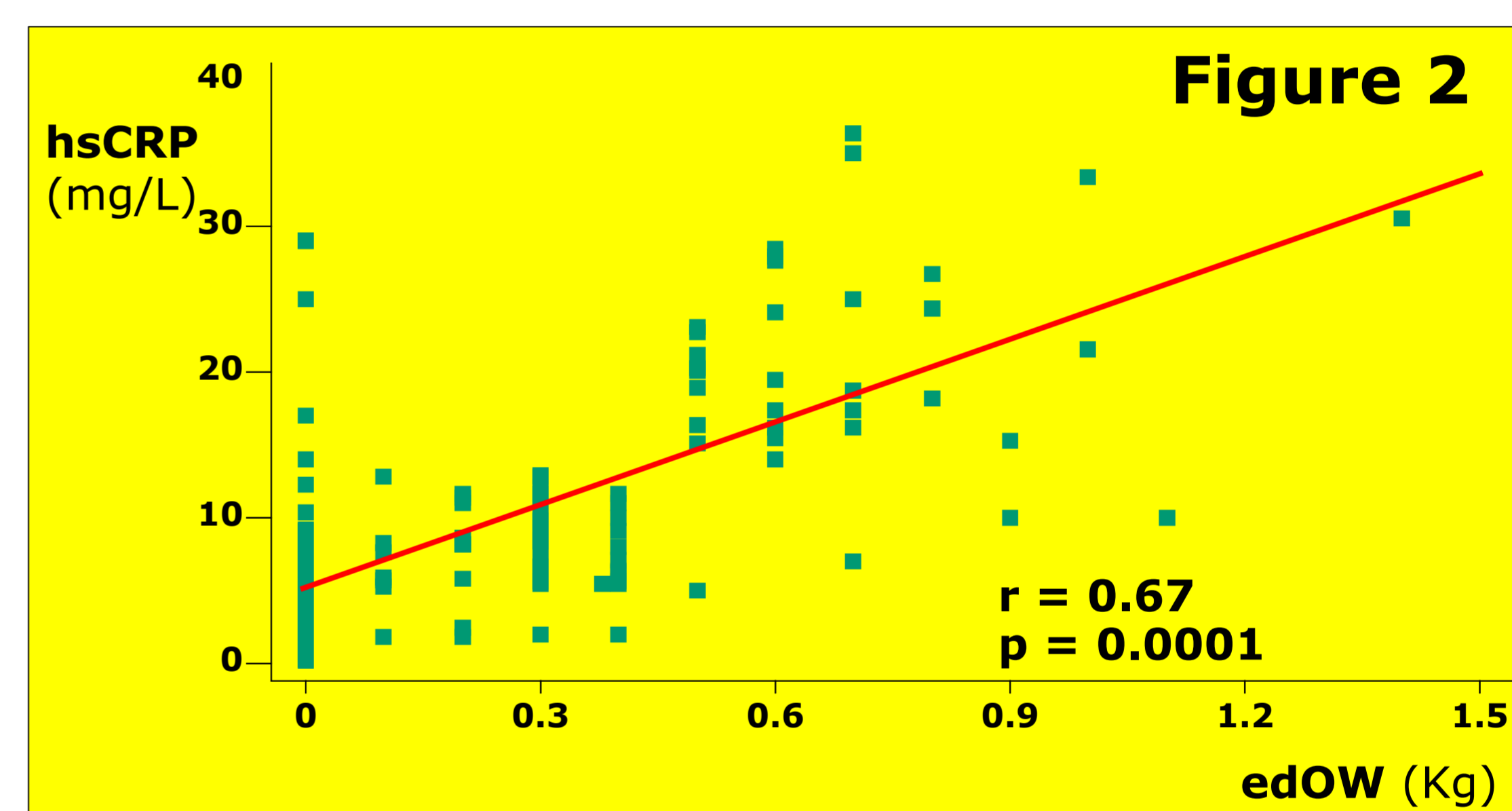


Figure 2

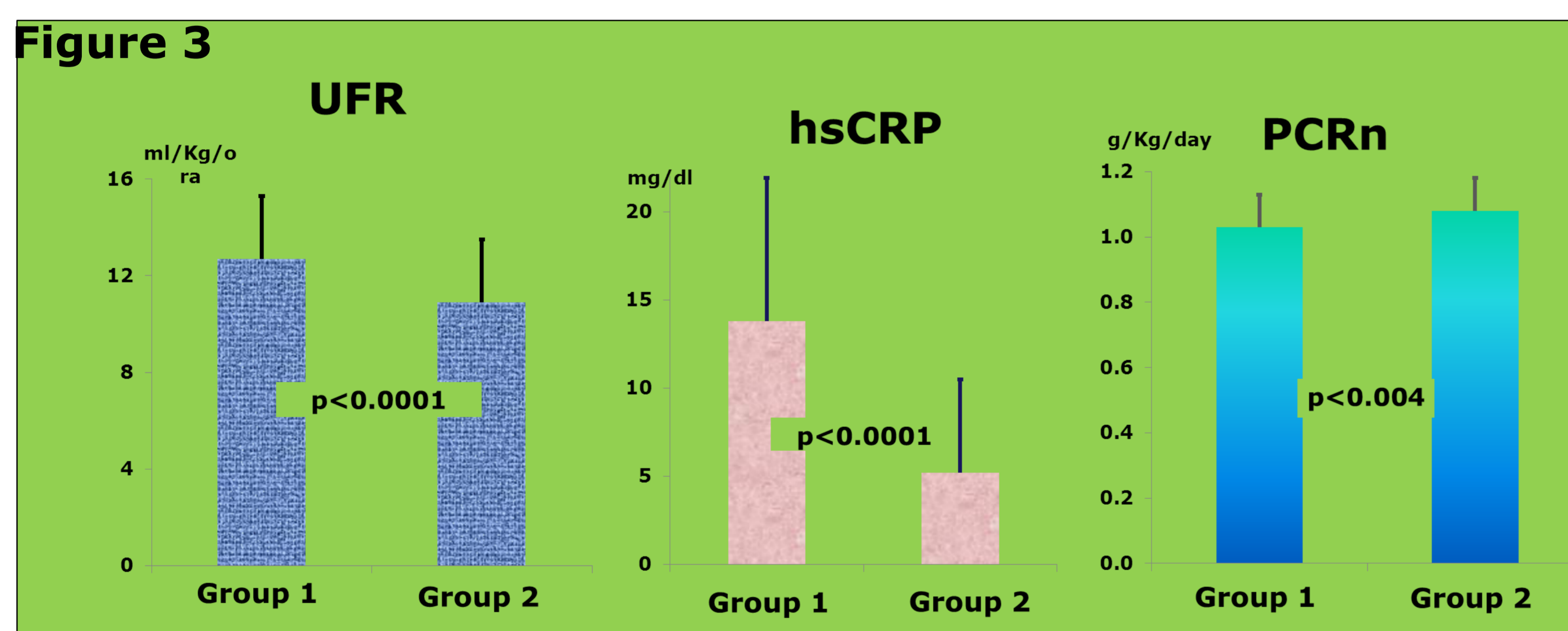


Figure 3

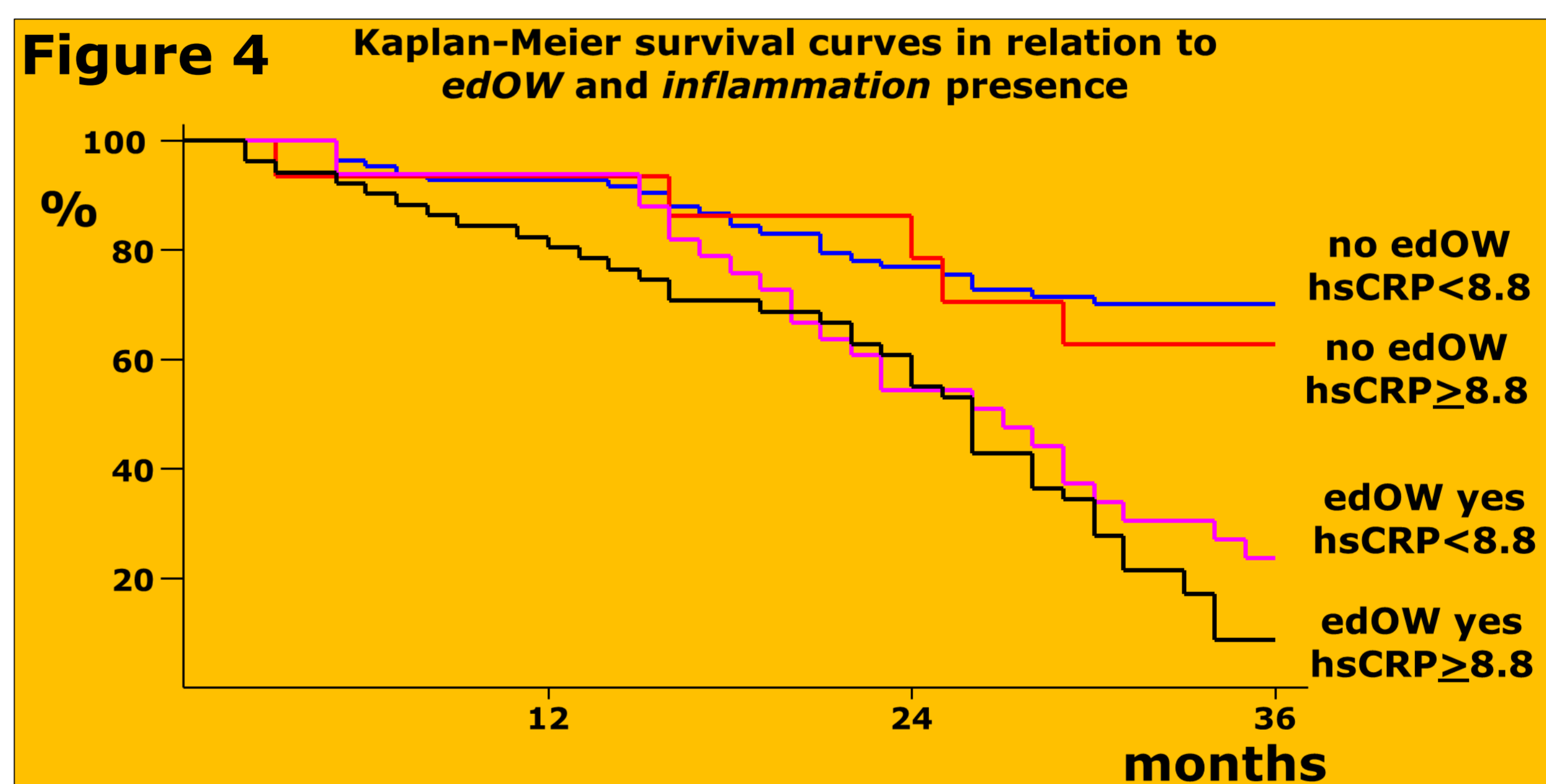


Figure 4

## Results

**Table 1:** Mean±SD of UFR, dBW, hsCRP, Kt/V, PCRn, IDWG, MAP in patients under study.

**Figure 2:** edOW and hsCRP were directly and significantly correlated ( $r=0.67$ ;  $p<0.0001$ ).

**Figure 3:** Comparison between pts with (**Group 1**) and without (**Group 2**) edOW showed significant differences in UFR, hsCRP, and PCRn.

98 pts (54%) died during follow-up for cardiovascular complications in 69% of cases.

**Figure 4:** Survival curves showed significantly greater mortality in Group 1 vs Group 2 in relation to the amount of edOW, and hsCRP ( $p<0.0001$ ).

## Conclusions

edOW and chronic inflammation are directly correlated in HD pts, and both are associated to a greater long-term risk of mortality.