

## Articolo Originale - Original Article

# Anoressia, intake calorico-proteico e livelli sierici di leptina nei pazienti in emodialisi

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## Anorexia and serum leptin in chronic hemodialysis patients

**ABSTRACT: Background.** Hyperleptinemia is a common feature in hemodialysis (HD) patients. The role of increased serum leptin levels in the pathogenesis of HD-related anorexia is, however, still controversial. The purpose of the present prospective study was to ascertain whether hyperleptinemia is casually implicated in the pathogenesis of HD-related anorexia.

**Methods.** We measured serum leptin levels and the serum leptin/Body Mass Index (BMI) ratio in 24 healthy subjects and in 49 end-stage renal disease patients on maintenance HD.

**Results.** HD patients were subdivided into anorexic (A) (14/49, 28.5%) and non-anorexic (NA) (35/49, 71.5%) according to a questionnaire discriminating for the presence of anorexia-related symptoms. Calorie (Kcal/kg/day) and protein (grams/kg/day) intakes were significantly lower in A than in NA patients ( $20.1 \pm 1.1$  vs.  $27.9 \pm 1.3$ ,  $p=0.004$  and  $0.82 \pm 0.05$  vs.  $1.19 \pm 0.05$ ,  $p=0.001$ , respectively). Accordingly, serum albumin, total lymphocytes count, mid arm muscle circumference, and the protein equivalence of nitrogen appearance (PNA) were significantly lower in A patients. Serum leptin concentration (ng/mL) was significantly higher in HD patients than in controls, both in males ( $15.33 \pm 3.4$  vs.  $3.7 \pm 0.3$ ,  $p=0.003$ ) and in females ( $42.31 \pm 7.2$  vs.  $10.5 \pm 1.3$ ,  $p=0.03$ ). Similarly, the serum leptin/BMI ratio was significantly higher in HD patients than in controls, both in males ( $0.56 \pm 0.1$  vs.  $0.16 \pm 0.02$ ,  $p=0.0028$ ) and in females ( $1.82 \pm 0.2$  vs.  $0.47 \pm 0.04$ ,  $p<0.0001$ ). However, serum leptin levels were similar in A and NA patients, whether male ( $15.3 \pm 5.6$  vs.  $16.9 \pm 4.2$ ,  $p=0.85$ ) or female ( $46.6 \pm 12.9$  vs.  $47.4 \pm 9.4$ ,  $p=0.96$ ). No differences were also observed between the two groups in the serum leptin/BMI ratio, either in males ( $0.59 \pm 0.2$  vs.  $0.58 \pm 0.14$ ,  $p=0.92$ ) or in females ( $1.58 \pm 0.4$  vs.  $1.83 \pm 0.3$ ,  $p=0.94$ ). No significant correlations were found between serum leptin levels and PNA, albumin, cholesterol, total lymphocytes number, weight change, C-reactive protein, fibrinogen, ferritin, and complement.

**Conclusions.** The present results would indicate that mechanisms other than increases in serum leptin levels might be involved in the pathogenesis of HD-related anorexia. (RINPE 2003; 21: 112-7)

**KEY WORDS:** Anorexia, Dietary intake, Hemodialysis, Leptin, Renal failure

**PAROLE CHIAVE:** Anoressia, Emodialisi, Intake calorico, Leptina, Insufficienza renale