DIALYSIS. PROTEIN-ENERGY WASTING, INFLAMMATION AND OXIDATIVE STRESS

RELATIONSHIP BETWEEN BODY MASS CHANGE AND SURVIVAL OF PATIENTS ON MAINTENANCE HEMODIALYSIS PROGRAM

Dalma Kulcsár1, Istvan Kiss1 and Imre Kulcsár2
1B. Braun Avitum Hungary Dialysis Network, Centre 1., Budapest, Hungary, 2B. Braun Avitum Hungary Dialysis Network, Centre 6., Szombathely, Hungary

Introduction and Aims: The appearance of observations in favour of (reverse epidemiology) and against the higher survival rate of overweight dialysis patients has long been an exciting issue in nephrology. Many observational retrospective studies have proved that patients on chronic dialysis programme with higher body mass index had a better survival, although there were also observations that could not prove this in general.

Objective: to analyse the correlation between body mass and survival as well as between body mass change and survival.

Methods: The data of a total of 238 patients included in a chronic haemodialysis (HD) programme were followed up in a retrospective manner. The average body mass values at the commencement of HD, on day 91, at the end of the period of observation and the body mass change values per unit of time were compared according to genders and two age groups (younger than 65 and ≥65 years old). The correlation of these values with survival was analysed by uni- and multivariate Cox model, Kaplan-Meier and endpoint analysis.

Results: The average age of patients was 63.4 years and the mean follow-up was 5.5 years. The average body weight (BW) was 72.4±17.5 kg in woman and 76.6±18.7 kg in men at the beginning of hemodialysis (HD) treatment, but it was 63.0±15.8 kg (woman) and 71.1±17.2kg (men) at the end of observation. The body mass reduction was -2.3±3.2 kg for women and -1.6±3.1 kg for men/year. The reduction of BW was much more pronounced in patients with 65 years age or older (woman: -7.3±9.2, men: -11.3±11.6 kg) than below 65 years (women: -6.7±9.0, men: -3.9±8.6 kg). The BW loss also influenced by the presence of diabetes (-3.1±3.8 kg/year) versus absence of diabetes (-1.6±2.7 kg/year). We did not find any significant correlation between BW measured at the commencement of HD and survival.

According to the changes in BW we created 2x3 patients groups: 1. BW loss ≥5 kg or ≥5% BW/year, 2. BW loss=2-4.9 kg or 2-4.9% BW/year, 3. BW loss <2 kg or <2% BW/year, or unchanged or increased. The analyses clearly showed that the best survival rate occurred in that groups, where the weight loss per year was the lowest.

Conclusions: Although these observations were made on a low number of patients, the follow-up period was rather long. The notable malnutrition (protein-energy wasting) plays a very important role in survival of chronic HD patients, probably independently from the BW measured at the beginning of dialysis. We hope that our observations will help resolve the still existing controversies of the issue studied.