COMPARISON OF TRADITIONAL SHORT DIURNAL HEMODIALYSIS WITH LONG INTERMITTENT NOCTURNAL HEMODIALYSIS: PRELIMINARY DATA

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Background: Several clinical and biochemical benefits have been noted for nocturnal hemodialysis (NHD) either for 8 h alternate night or 8h six nights per week compared with 4h, 3 times per week conventional diurnal hemodialysis (CHD, blood flow rate 275 ml/min, dialysis bath flow rate 500ml/min). From the end of last September, a nocturnal program of HD has been developed in our dialysis unit and thus offered the opportunity to check this.

Methods: Eight patients entered the program of NHD (3X8h, blood flow rate 200 ml/min and dialysis bath flow rate 350 ml/min). After 1 month, 4 patients (Group 1, 2 men and 2 women, mean age 40.2 y, dialysis vintage 24 months) decided for different reasons to come back to CHD. The 4 others (Group 2, 1 woman and 3 men, mean age 46.2 y, dialysis vintage 34.2 months) have continued the 8h NHD program. The 2 groups have been tested for hemodynamic, biochemical and HD efficiency’s parameters (averaged by month). Mean values have been compared for the month on CHD before starting NHD (month 1), for the month they were all on NHD (month 2) and for the last month (month 3) when group 1 returned on CHD and group 2 remained on NHD.

Results: If spKt/V or pre and post-dialysis blood pressure did not significantly change for each group, group 2 only showed a trend for a decrease of post-dialysis pulse pressure (-10 and –16 mmHg for month 2 and 3, respectively). The Ca-P product significantly and progressively decreased in group 2 (-6 and -10 mg²/dl² for months 2 and 3, respectively), but only during the NHD period in group 1 (-9 mg²/dl²). Haemoglobin concentrations remained stable during the study in spite of significant reduction of the EPO doses when NHD treatments (-25% for month 2 in both groups and -60% for month 3 in group 2).

Conclusions: NHD offers several clinical and economical advantages compared with CHD. However, the real impact of such changes needs to be confirmed on larger populations.