B) BRIEF PAPERS ON BASIC RESEARCH OR CLINICAL EXPERIENCIES

Haemodialysis 4 days a week: an effective alternative for controlling blood pressure and reaching target weight after dialysis

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Dear Editor,

Over the past few years, there have been many publications on daily haemodialysis that reflect the benefits of increased frequency, especially in terms of cardiovascular health and blood pressure control.[1-3] However, in clinical practice we often come up against enormous reluctance from patients when faced with this dialysis technique, since they see it as a worsening of their quality of life by having to go to the dialysis unit every day.[4,5] This is further complicated in health regions such as ours (Segovia) where 50% of the population lives in villages, and at times must travel more than an hour.

In this regard, an increased dialysis frequency of four days could result in some cardiovascular benefit with greater acceptance from daily haemodialysis patients.

We present data from 12 patients in our unit who changed to the four weekly session regimen from 2006 to 2008 and were followed for 8 months. The mean age was 67.5 years, mean arterial blood flow was 354.16ml/min and dialysis bath flow was 666.67ml/min. Non-parametric tests were used for data analysis.

The increased frequency allowed for a significant increase in dialysis time from 798.75 to 966.81 minutes per week. In analysing the dialysis dose, both the Casino and López's EKR (18.8 versus 21.64), the weekly PRU (236.82 versus 305.48), and weekly KT (198.88 compared to 238.31L) showed an increase in the dialysis dose received. Interdialytic gains decreased significantly (2.61 versus 1.52kg) as well as average hourly ultrafiltration during the session (600 versus 375ml). Similarly, the dry weight was achieved at the end of the sessions (with a margin of ± 300mg) more frequently (52.79 compared to 76.09%). The predialysis blood pressure values decreased significantly (145.83/76.66 versus 125.01/67.27) as did the post-dialysis values, albeit to a lesser extent (135.41/73.75 versus 119.98/65.90), and the number of antihypertensive drugs decreased (1.41 versus 0.45) (Table 1). No differences in the number of episodes of hypotension or intradialytic cramping were seen, or in the values of albumin, cholesterol, calcium, phosphorus, CRP, nPCR, dry weight, or the use of phosphate binders.

To conclude, increasing the frequency to 4 weekly sessions allowed us to increase the weekly time and, as a result, the dose of dialysis received. Blood pressure was better controlled and fewer medications were needed. Interdialytic gains were significantly reduced, as was ultrafiltration time, and the prescribed dry weight was more easily achieved. Thus, the patients who can most benefit from the increase to 4 weekly sessions are those with uncontrolled hypertension, excessive interdialytic gains, or who require a higher dose of dialysis.

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Table 1. Haemodynamic parameters and dialysis dose in those patients in whom variation was seen when going from the 3 sessions weekly regimen to 4 sessions weekly regimen

	Baseline	2 months	4 months	8 months
HD TIME (min weekly)	798.75 ± 33.92	953.75 ± 17.46[a]	937.50 ± 49.33[a]	966.81 ± 63.41[a]
PRU WEEKLY	236.82 ± 17.13[a]	305.96 ± 22.33[a]	311.39 ± 23.39[a]	305.48 ± 20.77[a]
EKR	18.80 ± 2.58	22.12 ± 2.21[a]	22.60 ± 2.01b	21.64 ± 2.28b
KT WEEKLY	198.88 ± 24.31[a]	243.00 ± 28.96[a]	246.81 ± 34.58[a]	238.31 ± 28.77b
ULTRAFILTRATION (L/H)	0.61 ± 0.18[a]	0.41 ± 0.17[a]	0.43 ± 0.19[a]	0.37 ± 0.13[a]
INTERDIALYSIS GAIN (kg)	2.61 ± 0.75[a]	1.67 ± 0.71[a]	1.73 ± 0.76[a]	1.52 ± 0.57[a]
% OF SESSIONS ACHIEVING FINAL DRY WEIGHT	52.79 ± 25.45	73.71 ± 12.89	64 ± 22.38[a]	76.09 ± 16.14[a]
SBP PREDIALYSIS	145.83 ± 23.62	122.50 ± 19.82[a]	125.47 ± 20.61[a]	125 ± 20[a]
DBP PREDIALYSIS	76.66 ± 12.41	64.58 ± 13.39b	68.33 ± 11.14	67.27 ± 8.17
ANTIHYPERTENSIVE MEDICATIONS (patient/day)	1.41 ± 1.44	1 ± 1.20	0.75 ± 0.96[a]	0.45 ± 0.68

[a] p< 0.05, [b] p< 0.01)

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A. Molina Ordas, M.A. Rodríguez Gómez, R. Sánchez Hernández, M.J. Fernández-Reyes Luis, M. Heras Benito, F. Álvarez-Ude Cotera
Nephrology Department.
General Hospital of Segovia, Spain.
Correspondence: Álvaro Molina Ordas
Servicio de Nefrología.
Hospital General de Segovia, Spain.

Change in regulations for dispensing immunosppressants to patients who have undergone a kidney transplant

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Dear Editor,

Until a few months ago, renal transplantation patients received their immunosuppressant therapy from community pharmacies, after prescription validation by the pharmacist responsible for health certification, as these drugs are prescribed based on hospital diagnosis. Most patients were treated with immunosuppressive therapy regimens that, although not listed on the technical data sheet, were indeed recommended in clinical practice guidelines. In June 2009, the Servizo Galego de Saúde (SERGAS) sent an informational notice to pharmacists responsible for approval, reminding them that treatments with sirolimus, mycophenolate sodium, and mycophenolate mofetil, in conjunction with drugs other than cyclosporine, should not be validated. This measure assumed these prescriptions to be compassionate use of these medication combinations and that their dispensing should take place in hospital pharmacy services. These regulations remained in effect until September of that year (Instruction 8/09 of the Regional Ministry of health of the Government of Galicia), at which time the previous rule was reinstated, following the drafting of a new report on specific approval for these combinations.

This study aims to analyse the repercussion that this measure had on the quality of life of patients, to understand their economic implications, and to assess the burden of care on pharmacy and nephrology services. We use our experience in our hospital as an example, which is a level 2 hospital complex with a catchment area of 223,000 inhabitants, of whom more than 50% live in a rural area and about 30% are over 64 years of age.

Method

The influence on the quality of life of patients was quantified as disruption caused by the shift to the hospital setting and expressed as distance in kilometres (km). A travel distance of more than 5km was considered to be serious medication acquisition difficulty.

The economic implications were analysed from two standpoints. The first was to consider whether or not they were medication cost reduction measures. For this we calculated the difference in cost to SERGAS between the purchase of medications via the hospital or by reimbursement to community pharmacies. The second was to assess the magnitude of budgetary adjustment relating to dispensing outpatient pharmacy services as a percentage of increase in spending.

We analysed the increase (net or percentage) in the hospital workload at three levels: nephrology clinic, medical administration, and outpatient pharmacy service dispensing area.

Patient data were obtained from medical record software applications from SERGAS and from the pharmacy's SILICON® software. A data collection sheet was created in Excel for Windows and statistical analysis was performed with SPSS 15.0. We used measures of central trending (mean) and dispersion (standard deviation), and estimated means and proportions with 95% confidence intervals (95% CI).

Results

During the period from June to October 2009, 72 compassionate use or off-label medications were transmitted, corresponding to 63 patients (68% male, mean age 51.84 years, 95% CI 48.94 to 54.64). The most commonly prescribed medication was mycophenolate mofetil (74.6%). The increase of care in the outpatient setting was 3.15 patients per day. The direct cost savings for drug acquisition to SERGAS was €16,296. The increase in cost to the pharmacy service was €7,344/month. The average distance travelled by patients to acquire their treatment was 32.27km (range: 0-85). Sixty-eight point two percent of patients had serious difficulties in acquiring their treatments.

Discussion

Patients undergoing renal transplantation are those who have certainly seen their health become compromised over the course of their lives. Thus, it is the duty of the health system, the same way as with the general population but more emphatically in these patients, to provide