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The importance of starting regular haemodialysis through a native arterio-venous fistula

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Dear Editor,

Vascular access is very important in the management of patients beginning Long Term Haemodialysis (LTH) nonetheless, in spite of the advances achieved in many fields, there is a very large number of patients that reach dialysis without proper vascular access.

Recent data demonstrates that, irrespective of the recommendations of guidelines, the use of Arteriovenous Fistulae (AVF) is even decreasing.[1,2] Therefore, this is a field where much work needs to be done.

In our hospital, we have carried out a retrospective study of all patients that began their LTH program between 1 January 2002, and 31 December 2003. Among other data we recorded the type of vascular access used at the beginning of their dialysis and at the end of the study, the dose of erythropoietin given during the entire period of the study to each patient (the annual dose was calculated for each one), the number of hospital admissions, in absolute numbers and calculated by total days, and the co-morbidity score using the Charlson Co-Morbidity Index,[3] calculated for the beginning and the end of the study.

63 patients began LTH during the period of the study. 41 of them (65%) were men. The average age was 60 ± 16 years for men and women. Fifty one percent of the patients were 65 years old or older. The average amount of time in the study was 9.3 ± 6.3 months. Of the 63 patients, 40 completed the study, The reasons for early termination of the study were *exitus* (four patients), transfer to another centre (four patients) and transplant (15 patients). The diabetic patients (19%) were older (66 ± 10 vs. 59 ± 17 years old), more obese (BMI 28 ± 7 vs. 25 ± 3) and they had a higher co-morbidity index than the rest of the patients.

39 patients began dialysis with AVF (62%) and 24 patients with catheters (38%). At the end of the study, 6 patients were using catheters for dialysis. There were no differences in type of vascular access according to age, in diabetics or non-diabetics or to co-morbidity index. Statistically significant differences were found in the level of albumin, dose of erythropoietin received and in the number of hospital admissions (table 1). The average annual dose of erythropoietin was practically double in those patients that started dialysis with a catheter compared to those that began with an AVF.

There were no differences if the vascular access in the results at the end of the study was considered. Kt/V at the end of the study was similar in the group of patients using catheters or an AVF for dialysis. Seventeen patients (27%) were never hospitalized, 22 (35%) were hospitalized once, and the rest, 24 patients (38%), more than once. Only 8% of those that began with a catheter were never hospitalized.

Having an AVF prior to the commencement of HD is not only associated with better patient-reported quality of life,[4] but is also linked to lower morbidity and mortality and healthcare expenditure.[5-7] Our study confirms the fact that those patients that began LTH with a catheter have a greater number of hospital admissions, longer hospital stay and need higher doses of erythropoietin for similar

Table 1. Patient characteristics according to their first vascular access at the start of haemodialysis

	Catheter	Fistula	p
Age	56 ± 20	63 ± 13	0.188
Diabetics	21%	18%	0.512
Hb 1 (g/dl)	10.3 ± 1.0	10.6 ± 1.6	0.370
Alb 1 (mg/dl)	3.0 ± 0.7	3.6 ± 0.6	**0.001**
ICh 1	2.3 ± 1.2	2.6 ± 1.6	0.584
Epo/year	572,314 ± 1,244,220	224,873 ± 144,870	**0.009**
Days of hospital stay	29 ± 34	18 ± 31	**0.031**
Admissions	92%	62%	**0.022**

1==> at the beginning of the study; Hb: Haemoglobin; Alb: Albumin; ICh: Charlson Co-morbidity Index; Epo: Erythropoietin, expressed in IU. Admissions: % of patients that were hospitalized at some point.

In bold, statistically significant differences

levels of haemoglobin. Therefore, although the situation in Spain is fortunately better[5,6,8] than in other countries,[4] more work must be done to ensure the timely formation of an AVF as recommended in in the clinical practice guidelines.[9,10]

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The current situation for vascular access in the province of Caceres

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Dear Editor,

Haemodialysis (HD) constitutes the first option of Renal Replacement Therapy (RRT) in incident patients, and the second in prevalent patients, according to the SEN (Spanish Society of Nephrology) record of 2006.[1] According to the 2006 Renal Patients Registry in Extremadura,[2] 87.07% of incident patients and 52.55% of prevalent patients on RRT were on HD.

In the province of Caceres, HD is the first RRT option in incident patients (85.7%) and prevalent patients (51.8%). Given that Vascular Access (VA) conditions the effectiveness of HD, the morbidity and mortality (major cause of hospital admission) and their quality of life, makes the creation of a proper VA urgent.

In order to review the current VA practice in our province and compare it to that from Spain, Europe and the United States and to evaluate the level of compliance with the quality standards recommended in the SEN[3] and the K/DOQI Vascular Access for HD Guidelines,[4] we have carried out a retrospective, observational study of VA in incident and prevalent HD patients in 2007.

A multicentre study published in 2001 by the Vascular Access Work Group is used as the main reference for VA practice at the national level[5] and at the international level, the DOPPS study,[6] which examines the trends in VA use in Europe and in the United States .

We found that during 2007, of the 45 HD patients that started treatment (incident population), 28 (62.2%) patients had permanent VA (53% native AVF, 7% graft and 2% permanent catheter) and 17 (37.8%) had no vascular access (table 1).

When compared with the National, European and North American references, the report on vascular access from 2001 revealed that 56% of patients started HD with a definitive VA and 44% with a temporary catheter.

Table 1. Types of vascular access in incident and prevalent patients

Type of VA	Incident Patients n = 45 (%)	Prevalent patients n = 185 (100%)
Radiocephalic AVF	10 (22.2%)	45 (24.3%)
Brachiocephalic AVF	7 (15.6%)	75 (40.6%)
Brachiobasilic AVF	5 (11.1%)	16 (8.7%)
Mid-humeral AVF	2 (4.4%)	3 (1.6%)
Arteriovenous graft	3 (6.7%)	13 (7%)
Tunnelled catheter	1 (2.2%)	23 (12.4%)
Temporary catheter	17 (37.8%)	10 (5.4%)