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## The use of a quality care programme for the management of renal disease in the Aragon region<sup>☆</sup>

### Utilidad de un programa de calidad asistencial para la gestión clínica de las enfermedades nefrológicas en Aragón

Dear Editor,

In 2009, the Framework Document on Managing Chronic Kidney Disease Care in Aragon was drafted by a multidisciplinary working group that comprised healthcare professionals, healthcare management professionals and members of kidney patient associations (ALCER Aragon). A structured, decentralised clinical management model was

established based on grouping patients by diseases, identifying opportunities for improvement and describing activities through their processes.<sup>1–3</sup> The patient and family were placed at the centre of the process map, and a continuous improvement cycle was introduced. Moreover, a series of indicators—both technical and perceived—were monitored to periodically assess the patient's evolution. This systematic and planned measurement of quality indicators, together

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**Table 1 – Evolution of the main technical quality indicators.**

	2010	2011	2012	2013	2014	2015
Patients undergoing HD with ultrapure water, %	64	62	63	68	62	100
Monitors over 10 years old, %	36	30	25	10	5	2
Patients undergoing HD with special techniques, %	12	16	19	18	17	22
HD initiated on a scheduled basis in ACKD, %	–	70	82	84	86	88
Information on RRT modalities in ACKD, %	–	90	100	100	100	100
Origin of RRT patients						
ACKD, %	–	31.4	35.6	50.8	64.4	57.4
Not ACKD, %	–	42.7	37.3	21.1	15.6	19.2
Unscheduled, %	–	26.6	27.1	28.1	20	23.4
HD initiated with definitive vascular access						
ACKD, %	–	76.3	85.7	65.5	75.8	81.5
Not ACKD, %	–	26.2	36.5	75	71.4	33.3
Unscheduled, %	–	14	27.1	28.1	20	16
eGFR at the beginning of RRT ml/min/1.73 m <sup>2</sup>	–	14	12	9.6	10	9.4
ACKD patients under conservative management, %	UK	UK	12	16	22	20
Living donor KTx, %	5.3	9.4	14.7	12.9	17.9	4.7
Peritoneal dialysis, %	8.9	18.9	22.4	32.2	28.7	28.2
Kt/V in PHD >1.3, %	32	37	34	36	46	53
At 3 and 6 months, %	52	53	50	58	64	78
Working peritoneal catheters per year, %	91	93	92	88	94	93
Peritonitis per months of treatment	1/31.2	1/34.3	1/41.2	1/38.4	1/43	1/43.6

UK: unknown.

with feedback and benchmarking,<sup>4,5</sup> enabled us to achieve the objectives. Moreover, activities that are unrelated to the final process were also taken into account. These are information to patients and healthcare personnel, collection of management and indicator data, training of personnel and inspection of facilities.<sup>6,7</sup> In this document, we evaluate the response to this intervention by means of monitoring the main indicators.

Improvement programmes centred on the following strategic plans were established at all nephrology units:

- Recovery of the patient's role in decision-making.
- Improvement of information systems.
- Designing a registry of patients undergoing renal replacement therapy in the autonomous community.
- Resolution of structural limitations: installing water treatment units to obtain ultrapure water in hospitals lacking the same and renewing equipment at dialysis centres.
- Increasing the percentage of patients on special techniques.
- Improving the critical points of the care process:
  - Optimisation of management of patients with ACKD: equity, reduction in variability.
  - Promoting kidney transplants from living donors.
  - Promoting home dialysis techniques.
  - Promoting conservative kidney management.

Analysing the main indicators after the development and implementation of the management process has allowed us to observe a significant improvement. The various clinical, nutritional, analytical and evolution-related parameters in the different RRT techniques have reached similar ranges to routine nephrology practice and are even higher than the national averages in some aspects.<sup>8</sup> A brief selection of the changes among the other indicators is reflected in [Table 1](#).

We feel that the involvement of healthcare personnel and patients in management and the collaboration of the healthcare authorities facilitates the implementation of programmes that may improve healthcare.<sup>9,10</sup> The implementation of the above-mentioned processes was especially difficult due to being performed at the time of the economic crisis, with significant financial limitations. The fact that the processes performed are effective (they truly improve the patients' situations) and efficient (they improve them with a reasonable investment and in many cases actually save money) has facilitated the creation of these units and treatment techniques.

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## Pulmonary haemorrhage in a patient with IgA nephropathy<sup>☆</sup>

### Hemorragia pulmonar en paciente con nefropatía IgA

Dear Editor,

Henoch-Schönlein purpura (HSP) is a leukocytoclastic vasculitis affecting small-vessels that is rarely seen in adults. Lung involvement is extremely rare, with an unpredictable clinical evolution and high rates of mortality.<sup>1,2</sup>

We report the case of a 69-year-old male patient with IgA nephropathy and a bilateral alveolar haemorrhage in the context of HSP. As for his personal history, he suffered from hypertension and atrial fibrillation, wore a mechanical prosthesis and was undergoing treatment with oral anticoagulants. The patient was admitted due to fever, dyspnoea, oedemas, coughing and expectoration. On admission, a deterioration of kidney function was observed (Cr 1.67 mg/dl; GFR 41 ml/min) as well as leukocytosis with a left shift. Following diuretic and antibiotic treatment, an improvement in kidney function occurred (Cr 0.9 mg/dl, GFR 82 ml/min) and the leukocytosis decreased. A few days later, the patient presented again deterioration of kidney function (Cr 2.1 mg/dl), anaemia (Hb 7.5 g/dl) along with purpuric lesions of the lower limbs. The tests performed showed: normal albumin, cholesterol and lactate dehydrogenase; an ESR of 52 mm, urine element and sediment with +++proteins, ++++Hb, >100 red blood cells/field, 24-hour urine protein of 1870 mg; IgA

437.00 mg/dl, normal remaining immunoglobulins and complement, antinuclear antibodies, anti-neutrophil cytoplasmic antibodies, anti-glomerular basement membrane antibodies and negative viral serology testing. Haptoglobins < 25, blood smear without schistocytes, positive direct Coombs test. Urological ultrasound with no pathological findings.

In light of suspected vasculitis, treatment was initiated with three boli of methylprednisolone 500 mg on consecutive days, followed by prednisone at 1 mg/kg every 24 hours. 72 hours later, symptoms of haemoptysis and anaemia appeared; a chest X-ray and chest CT scan were performed, showing findings suggestive of a bilateral alveolar haemorrhage and the presence of intraparenchymal pulmonary haematoma (Figs. 1 and 2). Treatment was initiated with a bolus of 500 mg/m<sup>2</sup> cyclophosphamide and immunoglobulins at 2 g/kg, spread across five doses. Five days later, frank haemoptysis, anaemia and significant respiratory effort occurred, prompting a transfer to ICU, where orotracheal intubation and mechanical ventilation were performed. The patient also required aspiration due to massive bleeding.

During the patient's stay in the ICU, six sessions of plasmapheresis were performed on alternate days, and treatment with corticosteroids was maintained. A clinical and analytical improvement was seen over the subsequent days and

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