Table 2. Vascular access and Kt/V

Vascular access	No.	Percentage	Kt/V
Arteriovenous fistula	52	67.53%	1.37
Catheter	25	32.46%	1.38

To conclude: in our experience, the positive results in permanent catheters are due to the total freedom in our unit for inserting, removing, replacing, and choosing catheters, for which we owe eternal thanks to Dr Forascepi; there is nothing like working closely with the patient to improve our results. Secondly, the few emergencies that were produced in prevalent dialysis patients were closely related to the referral of cardiologically unstable patients to peritoneal dialysis (essential collaboration from the Hospital Central de Asturias), and in some cases due to administering extra scheduled dialysis. Finally, avoiding unnecessarily prolonged treatment in certain patients with very low life expectancy and poor quality of life is an obvious goal, and we are focused on avoiding unnecessary suffering and ethical issues, etc., for heavily burdened families. In our opinion, senile patients with an acceptable quality of life should be included in this treatment programme. We need to improve many aspects of the treatment that we provide, but always with the patient's needs in mind.

Conflicts of interest

The authors affirm that they have no conflicts of interest related to the content of this article.

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C) BRIEF CASE REPORTS

Topiramate-induced metabolic acidosis: a case study

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To the Editor,

We present the case of a 75 year-old male with hypertension and chronic obstructive pulmonary disease who was diagnosed with chronic delusional disorder and mixed personality disorder, along with partial epilepsy due to a left parietal haematoma from several years prior. The patient was under treatment with topiramate, levetiracetam, quetiapine, sertraline, clobazam, and bronchodilators. He sought treatment for a respiratory infection and functional deterioration consisting of apathy, drowsiness, and periods of aggressive behaviour. A physical examination revealed that the patient had no fever, although he did suffer from disorientation and slurred speech, and would drift off to sleep, but with no apparent focal loss of motor function. The patient also had shallow tachypnoea, widespread rhonchi, and crackles in the left base, with radiological images indicative of superinfection of the abnormally widened bronchial tubes. We performed a laboratory analysis, revealing mildly elevated chlorine (114mEq/l), with nor-

mal renal function and all other ion parameters (sodium: 138mEq/l; potassium: 4.2mEq/l), and baseline arterial gasses compatible with a diagnosis of metabolic acidosis (pH: 7.24; pCO_2: 33mm Hg; pO_2: 67mm Hg; bicarbonate: 17mmol/l; base excess [BE]: -9.1mmol/l). The anion GAP value (difference between serum sodium and the sum of chlorine and bicarbonate) was 7mEq/l. The patient received treatment with systemic steroids and quinolones, with rapid clinical improvement until reaching a normal baseline levels. However, later controls revealed persistent hyperchloremic metabolic acidosis; after ruling out other possibilities, we attributed this fact to the chronic treatment with topiramate, which was suspended and replaced with phenytoin, which completely resolved the altered laboratory values by the time the patient was discharged.

Topiramate is a sulphamate with antiepileptic effects, and is indicated in preventative treatment of migrane,[1,2] the treatment of neuropathic pain[3], bipolar disorder,[3] tobacco dependence, and bulimia nervosa,[4] among other pathologies. Its most common secondary side effects[2,5] are asthenia, dizziness, drowsiness, emotional lability, and weight loss. The development of urolithiasis and hyperchloremic metabolic acidosis with a normal anion GAP is much less common, but has been reported. Topiramate has a molecular structure very similar to acetazolamide[2,6] and inhibits the carbonic anhydrase enzyme,[3,6] especially the type II isoenzyme that predominates in human kidneys.[1,2,6] This can lead to mixed renal tubular acidosis[1] (type 3) as a result of ultrafiltration and reabsorption of bicarbonate in both proximal and distal tubules,[4] thus altering urine acidification and provoking a decrease in serum bicarbonate and CO_2 concentrations,[4] which is usually mild and asymptomatic,[7,8] although can produce hyperventilation,[3,4] neurological symptoms,[3] nephrolithiasis, osteoporosis, and osteomalacia in the long term. The circumstances that predispose patients to developing this complication are not well established, but patients are more likely to develop it if they have other conditions that cause acidosis, such as infections, diabetic ketoacidosis, chronic renal failure, or surgery.[4,5] Certain genetic polymorphisms in the involved carbonic anhydrase isoenzymes may explain a greater or lesser susceptibility of certain patients to develop this complication.[3,9] Some authors have suggested the possibility of monitoring bicarbonate[1,6] or CO_2[3,5] levels to predict these cases, although this is not a completely validated method. The development of metabolic acidosis during chronic treatment with topiramate is a reversible condition, regardless of the dosage[3,9] and duration of treatment.9 The only treatment is to suspend the use of the drug10 (there is no antidote) and replace it with a substitute. When the withdrawal of the drug is not possible, and the patient maintains acceptable levels of pH and serum bicarbonate, with no symptoms, indefinite treatment with oral alkaline supplements can be administered (sodium citrate or citric acid1).

Conflicts of interest

The authors affirm that they have no conflicts of interest related to the content of this article.

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Giant true aneurysm of the radial artery following ligation of an arteriovenous fistula for haemodialysis

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To the Editor,

Aneurysms and pseudoaneurysms develop in approximately 8% of arteriovenous fistulas (AVF) created for haemodialysis.[1] They are potential sources of embolisation and thrombosis, and can occasionally erode the skin, giving rise to infection and local bleeding, and can even deform the af-