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Letters to the Editor / Cartas al Editor

INTESTINAL DIALYSIS IN VERY OLD PATIENTS

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To the Editor:

Patients older than 75 showed a 67 % rise in the incident rate of end-stage renal disease (ESRD) as compared to 24 % for those between 5 and 74 years ¹. Chronic dialysis is a valid therapeutic option in ESRD seniors patients¹⁻², even though the survival for octogenarians on dialysis, as happens in younger patients, is far lower than age-matched general population ³. Moreover, in high-risk, highly dependent patients with ESRD, the decision to dialyze or not has little impact on survival ¹.

En algunas oportunidades, pacientes muy ancianos lúcidos (o su familia cercana en el caso de pacientes con demencia moderada) se niegan a iniciar el tratamiento dialítico propuesto, prefiriendo algún tipo de terapéutica alternativa menos invasiva.

Sometimes, lucid very old patients (or their close family in moderate demented ones) do not agree with starting dialysis treatment, but they prefer a less invasive management. Among the above mentioned conservative therapeutic options are: a very low-protein diet, changing intestinal bacteria flora (probiotics), or activated charcoal⁴⁻⁶.

Charcoal is activated by exposing it to oxidizing gas compound at high temperatures resulting in the production of increased surface area from the creation of pores. A 50 grams dose of activated charcoal has a surface approximately equal to 10 football fields. Urea and other waste products which diffuse into the gastrointestinal tract from the blood are bound to charcoal and excreted in the feces, creating a concentration gradient for continued diffusion, giving place to a process called "intestinal dialysis" ⁷.

Charcoal contraindications are: absence of bowel sounds (ileus), presence of gastrointestinal perforation, gut obstruction, recent abdominal surgery, risk of gastrointestinal hemorrhage. Serious adverse effects such as intestinal obstruction and aspiration pneumonia can be avoided by co-administering cathartic (non-based on magnesium ones) or not using this product in patients who have a reduced ability to protect his airway. Other reported adverse effects are vomiting, acute appendicitis, allergic reaction, and luminal drug adsorption: carbamazepine, digoxine, furosemide, mycophenolate, theophylline, and olanzapine⁸.

In the present letter we would like to share our successful experience of treating three very old ESRD patients with intestinal dialysis based on oral activated charcoal administration. Two of the treated patients were lucid and they had refused to dialyze, while the third one, who suffered from moderate dementia, had relatives (his wife and daughter) who had not accepted to dialyze him. All these patients passed urine, had neither edema, significant metabolic acidosis, nor hyperkalemia.

Activated charcoal was initiated at a dose of 15 grams (powder), diluted in a glass of water. It was administered after meals, far from other medications, initial dose was twice a day (30 grams), being later progressively risen until a significant serum urea reduction was reached. Maximal used dose was 60 g/day. We observed that activated charcoal was able to maintain their serum urea level in a significantly lower value (Table 1). All the patients were free of uremic symptoms, such as nausea, insomnia, asthenia, pruritus, or hyporexia. Only one of them showed constipation which was solved by adding an oral cathartic to his therapeutic scheme.

In conclusion, in our experience orally administered activated charcoal was a useful therapeutic alternative to handle end-stage renal disease in very old patients who had denied starting dialysis.

	Before charcoal	After charcoal	p
Serum urea (mg/dl)	178 ± 37	125 ± 34	0.007
Serum creatinine (mg/dl)	4 ± 0.7	3.3 ± 0.7	0.07

Table 1: serum urea and creatinine level before and after a week of starting intestinal dialysis (activated charcoal)

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