

must meet the aims (specific, measurable, achievable, result-oriented).

Dr Negri summarises by attributing the fact that they are unachievable due to the unavailability of drugs such as oral paricalcitol, sevelamer carbonate and lanthanum carbonate for their use in pre-dialysis. This is a simplification of the reasons that I presented, of which there are various, although I still continue to consider this reason as highly important (it is an opinion).

I agree with Dr Negri that the study by Block et al.³ is disturbing. The methodological criticisms for this are obvious and numerous.⁴ This is not the place to analyse it in detail. However, I believe that it is having excessive impact due to the fact that it has been published in one of the most prestigious journals in our specialty and because it has been

signed by authors with great scientific backgrounds. We should wait for more solid evidence, without neglecting the best evidence available.

Conflicts of interest

The authors declare that they have no conflicts of interest related to the contents of this article.

1. Fernández E. ¿Son inalcanzables o inadecuados los objetivos de las guías K/DOQI en las alteraciones del metabolismo mineral en pacientes con enfermedad renal crónica 3-5? *Nefrologia* 2013;33(1):1-6
2. Górriz JL, Molina P, Bover J, Barril G, Martín-de Francisco AL, Caravaca F, et al., en nombre de los investigadores del estudio OSERCE. Características del metabolismo óseo y mineral en pacientes con enfermedad renal crónica en estadios 3-5

no en diálisis: resultados del estudio OSERCE. *Nefrologia* 2013;33(1):46-60.

3. Block GA, Wheeler DC, Persky MS, Kestenbaum B, Ketteler M, Spiegel DM, et al. Effects of phosphate binders in moderate CKD. *J Am Soc Nephrol* 2012;23(8):1407-15.
4. Druke TB, Massy ZA. Phosphate binders in CKD: bad news or good news? *J Am Soc Nephrol* 2012;23:1273-82.

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B) BRIEF PAPERS ON RESEARCH AND CLINICAL EXPERIMENTS

Treatment with megestrol acetate increases muscle mass in uraemic patients

Nefrologia 2013;33(3):425-6

doi:10.3265/Nefrologia.pre2013.Feb.11819

To the Editor:

Megestrol acetate is an appetite stimulant used in the treatment of uraemic patients' anorexia. When administered in appropriate doses, it achieves an increase in weight and the improvement of other nutritional parameters without significant side effects.¹

The body compartment responsible for weight gain induced by megestrol acetate is a subject of controversy. Very few studies have examined this issue and the results are conflicting. While the work by Golebiewska et al. observed a tendency to retain hydrosaline,² other authors observed increased fat mass^{3,4} and increased fat free mass.⁵

We had the opportunity to analyse body composition with electrical bioimpedance techniques in 9 patients who experienced significant weight gain after treatment with megestrol acetate.

Our patients are 4 males and 5 females, between 40 and 80 years of age. None had residual renal function and they were treated with three weekly sessions of haemodialysis. All received a daily dose of 160mg megestrol acetate.

The baseline electrical bioimpedance analysis was performed immediately before the start of treatment with megestrol acetate and it was repeated before withdrawal of the treatment when the patients were considered to have overcome a state of malnutrition and experienced a significant increase in weight. We used a single frequency bioimpedance model with the standard tetrapolar technique (EFG ElectroFluidGraph analyzer, Akern SRL, Florence, Italy). Bioimpedance studies

were performed after the haemodialysis session, following a five minute rest period in the supine position, using a current of 300 microA a 50kHz.

The duration of treatment with megestrol acetate ranged between 2 and 12 months (6.5±3.8, mean ± standard deviation). The dose of dialysis did not change during this time period (Daurgidas unicompartamental Kt/V: baseline 1.48 end 1.50). After the treatment, patients experienced an increase in weight which varied between 2 and 9kg associated with an increase in the protein catabolic rate (1.25 compared with 0.97g/kg/day, *P*<.05), albumin concentration (3.9 compared with 3.50g/dl, *P*<.05), serum creatinine (10.1 compared with 8.34mg/dl, *P*<.05) and urea (198 compared with 175mg/dl, *P*<.05), without there being variations in the concentration of phosphorus (4.9 compared with 4.8mg/dl) and the dialysis dose (Daurgidas spKt/V 1.47 compared with 1.49). Table 1 shows the body composition data provided by the bioimped-

ance analysis before and after treatment with megestrol acetate.

Treatment with megestrol acetate leads to a better distribution of total body water with increased intracellular water component. Increased intracellular water is consistent with the increase observed in total cell mass. There was an increase in muscle mass and a small increase, not statistically significant, in fat mass. This increase in muscle mass would explain the increase in creatinine concentration observed in our patients.

Our results correspond to those of a study performed on a group of patients selected due to having experienced a significant weight increase after the administration of megestrol acetate. We can conclude that in this group of patients the increase in weight is not due to hydrosaline retention but rather, it is produced at the expense of an increase in lean mass, both of the cellular and muscular component. This finding is very significant if we take into account the association described between the increase in muscle mass and the better survival rate of the uraemic patient.⁶

Conflicts of interest

The authors declare that they have no conflicts of interest related to the contents of this article.

Table 1. Analysis of body composition by BIA before and after treatment with megestrol acetate.

	Baseline data	Post-treatment data	P
Dry weight (kg)	56.7±11.2	61.7±13.7	P=0.009
Total body water (l)	33.8±10.4	35.6±9.9	P=0.356
(% of body weight)	(57.9±8.8)	(57.7±5.9)	
Intracellular volume	49.9±5	56.5±5	P=0.01
(% total body water)			
Extracellular volume	50±5.6	44.9±4.8	P=0.01
(% total body water)			
Total cell mass (kg)	21.3±6.1	25±7.5	P=0.025
Fat mass (kg)	14.7±7.7	15.5±6.1	P=0.771
Muscle mass (kg)	26.7±7.6	30.8±8.9	P=0.033

1. Fernández Lucas M, Teruel JL, Burguera V, Sosa H, Rivera M, Rodríguez Palomares JR, et al. Tratamiento de la anorexia urémica con acetato de megestrol. *Nefrologia* 2010;30:646-52.
2. Golebiewska J, Lichodziejewska-Niemierko M, Aleksandrowicz E, Majkovicz M, Lysiak-Szydłowska W, Rutkowski E. Influence of megestrol acetate on nutrition and inflammation in dialysis patients - preliminary results. *Acta Biochim Pol* 2009;56:733-7.
3. Burrowes JD, Bluestone PA, Wang J, Pierson RN. The effects of moderate doses of megestrol on nutritional status and body composition in a hemodialysis patient. *J Ren Nutr* 1999;9:89-94.
4. Rammohan M, Kalantar-Zadeh K, Liang A, Ghossein C. Megestrol acetate in a moderate dose for the treatment of malnutrition-inflammation complex in maintenance dialysis patients. *J Ren Nutr* 2005;15:345-55.
5. Yeh SS, Marandi M, Thode HC, Levine DM, Parker T, Dixon T, et al. Report of a pilot, doubleblind, placebo-controlled study of megestrol acetate in elderly dialysis patients with caquexia. *J Ren Nutr* 2010;20:52-62.
6. Kalantar-Zadeh K, Streja E, Kovsesdy CP, Oreopoulos A, Noori N, Jing J, et al. The obesity paradox and mortality associated with surrogates of body size and muscle mass in patients receiving hemodialysis. *Mayo Clin Proc* 2010;85(11):991-2001.

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Effectiveness of haemodiafiltration with ultrafiltrate regeneration in renal failure due to multiple myeloma

Nefrologia 2013;33(3):426-8

doi:10.3265/Nefrologia.pre2013.Feb.11892

To the Editor:

Multiple myeloma (MM) is a clonal proliferation of plasma cells that leads to excessive production of a certain type of immunoglobulin or a fraction thereof. In 12-20% of patients, acute renal failure (ARF) occurs, mainly due to cast nephropathy (myeloma kidney) due to tubular damage. Survival depends on the recovery of renal function.

We present the case of a 63-year-old female, without relevant medical history, who was admitted with ARF secondary to MM (kappa light chain cast [LCC]) and remains dependent on renal replacement therapy (RRT) from diagnosis. Online haemodiafiltration was performed four times a week, in sessions lasting 240 minutes, maintaining residual diuresis (RD: 1000 cc/24 h) and serum creatinine levels around 5mg/dl.

The aim of MM treatment is to reduce the production of LCC with