

Letters to the Editor

Palliative use of furosemide in continuous subcutaneous infusion in a renal transplant patient with heart failure[☆]

Uso paliativo de la furosemida en infusión continua subcutánea en un paciente trasplantado renal con fallo cardíaco

Dear Editor,

Cardiovascular disease is the first cause of death (30%) in renal transplant patients¹ and in patients with kidney diseases in general, in these patients decompensated heart failure is frequent. The most common symptoms and comorbidities among patients with advanced stage of heart failure are dyspnea, pain, depression, fatigue and edema. Diuretics are the main treatment for dyspnea and edema, with furosemide being the most commonly used.² The optimal effect of furosemide may require the intravenous route which implies hospital admission. It is also common the find difficulty in venipuncture of these patients. Therefore, the use of subcutaneous furosemide has been described in multiple cases in recent years with palliative purpose.³⁻⁶ We describe the case of a 65-year-old male patient who was admitted in February 2016 to our health center for symptom control due to complex pluripathology and significant functional impairment (Lawton 2/8 index and Barthel index 60/100). He presented with morbid obesity of years of evolution (BMI 48.7), arterial hypertension, diabetes mellitus type 2, severe obstructive sleep apnea syndrome, generalized osteoarthritis, multinodular goiter, kidney transplant in 1998 due to chronic renal failure of unknown etiology with glomerular filtration rate of 50-60 ml/min/1.73 m², chronic lymphoedema in lower extremities, operated urethral stenosis, large abdominal hernia, pacemaker due to complete atrioventricular block and multiple hospital admissions due to decompensated heart failure and episodes of acute pulmonary edema during the last year. During the hospitalization, he again presented exacerbation of the edema in the all extremities and abdominal wall, and significant dyspnea at rest with 80%

saturation and decreased state of consciousness. Due to the refractoriness of the oral furosemide (80 mg/8 h), with stable renal function and extremely difficult venipuncture, it was decided to administer a continuous subcutaneous perfusion of furosemide at a rate of 250 mg/24 h and given the poor overall prognosis comfort measures were adopted. The diuretic response was positive, increasing diuresis from 400 to 1000 cc/day, with a decrease in edema and a greater sense of well-being. However, the patient presented with hematemesis and died 5 days later.

Continuous subcutaneous infusion is commonly used in palliative care units, with little information about its use in other medical specialties.⁷ The medications most commonly used subcutaneously are those administered in terminally ill patients, mainly oncology patients, and the experience of their use in other diseases is limited. For selected patients with advanced heart failure, continuous infusion of subcutaneous furosemide would allow them to continue their administration at home, or to continue their parenteral use if the possibility of intravenous route has been lost.³⁻⁶ Although there may be local adverse effects, these are of little relevance.⁴

By describing this case we want to emphasize that, although this patient had a very poor prognosis, the administration of furosemide by continuous subcutaneous infusion improved the symptoms of heart failure and decreased the aggressiveness in his treatment. Consequently, it would be necessary to perform further studies on the palliative use of subcutaneous furosemide in heart failure patients particularly in patients with kidney disease, and to assess the usefulness in renal transplant patients who reach a terminal situation or very advanced heart failure but with functional renal graft.

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REFERENCES

- Hernández D, Moreso F. ¿Ha mejorado la supervivencia del paciente tras el trasplante renal en la era de la moderna inmunosupresión? *Nefrología*. 2013;33:171-80.
 - Adler E, Goldfinger J, Kalman J, ParK M, Meier D. Palliative Care in the treatment of advanced heart failure. *Circulation*. 2009;120:2597-606.
 - Zacharias H, Raw J, Nunn A, Parson S, Johson M. Is there a role for subcutaneous furosemide in the community and hospice management of end-stage heart failure? *Palliat Med*. 2011;25:658-63.
 - Zatarain-Nicolás E, López-Díaz J, de la Fuente-Galán L, García-Pardo H, Recio-Platero A, San Román-Calvar JA. Tratamiento de la insuficiencia cardíaca descompensada con furosemida subcutánea mediante bombas elastoméricas: experiencia inicial. *Rev Esp Cardiol*. 2013;66:1002-4.
 - Moreno Conde M, López Ibáñez Z, Santos Moyano E, Ramiro Ortega J, Bonilla Palomas A, Gámez López B, et al. Infusión continua de furosemida subcutánea mediante bomba elastomérica como tratamiento domiciliario paliativo en pacientes con insuficiencia cardíaca terminal: experiencia inicial. *Rev Clin Esp*. 2015;215(Espec Congr):863.
 - Ojeifo O, Russell S, Okwuosa I, Almansa J, Cuomo K, Cummings A. Subcutaneous versus intravenous furosemida in the Johns Hopkins Heart Failure Bridge Clinic. *J Card Fail*. 2016;22:S81.
 - Vázquez A, Hernández C, Rivera MG, Maestro FJ. El uso de la vía subcutánea en la práctica clínica de la Atención Primaria. *Cad Aten Primaria*. 2010;17:108-11.
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Waldenström macroglobulinemia presenting as cryoglobulinemic type II membranoproliferative glomerulonephritis[☆]

Macroglobulinemia de Waldenström presentándose como glomerulonefritis membranoproliferativa crioglobulinémica tipo II

Dear Editor,

Waldenström macroglobulinemia (MW) is a low-grade malignant lymphoproliferative disorder, with well recognized manifestations such as kidney disease and type I cryoglobulinemia; however, cryoglobulinemic membranoproliferative glomerulonephritis (GNMP) has been describe in only few isolated cases.^{1,2}

Here, we present the case of a patient with cryoglobulinemic glomerulonephritis associated with Waldenström's disease.

A 68-year-old woman consulted for new-onset oedemas, arthralgias and purpuric lesions in lower limbs. She had medical history of hypertension, dyslipidemia, monoclonal gammopathy of unknown significance, kappa IgM diagnosed in 2012, followed up by hematology department that did not

require specific treatment and inactive infection of hepatitis B virus (HBV) without requiring treatment.

Physical examination revealed edemas with fovea and purpuric lesions on both legs (Fig. 1). Blood test showed, VSG: 82 mm; creatinine: 1.2 mg/dl; glomerular filtration rate: 55 ml/min; LDH 604 UI/l; proteins: 5.7 g/dl; albumin: 3.0 g/dl; proteinuria 3.7 g/day; hypogammaglobulinemia IgG and IgM; reduced complement, C3: 1.4 mg/dl and C4: 0.06 mg/dl.

The serologies of HIV, HCV, HBVsAg, anti-HBV, HBeAg were negative and anti-HBV positive, with a viral load of HBV-DNA 87 and a normal level of transaminases, being labeled as an inactive carrier of HBV without abnormality in the liver function.

The immune study showed mixed monoclonal cryoglobulinemia IgM kappa with cryocrit of 7%. The serum immunofixation revealed a kappa IgM band, with quantification

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