

Letters to the Editor

Home Subcutaneous Infusion of Furosemide in Advanced Decompensated Heart Failure**Infusión subcutánea domiciliar de furosemida en la insuficiencia cardíaca avanzada descompensada****To the Editor,**

We read with interest the scientific letter titled "Subcutaneous Infusion of Furosemide Administered by Elastomeric Pumps for Decompensated Heart Failure Treatment: Initial Experience" by Zatarain-Nicolás et al.¹

In our hospital palliative care department, we have experience in the administration of subcutaneous palliative treatment to terminally ill patients, including those with heart failure. However, we note substantial differences in the indications, objectives, and follow-up of treatment in our patients compared to those of the patients presented in that letter. These differences seem worthy of comment.

The first point of interest about the study is that the authors referred to it as an initial experience when there are references on the topic dating from 1997, and Spanish articles dating from 2000.² The authors themselves had already reported smaller case series in this same journal.^{3,4}

Since the 1980 s, the subcutaneous administration of drugs has been commonplace in the field of palliative care and in patients with very advanced disease who cannot tolerate oral administration. Thus, the study by Zatarain-Nicolás et al.¹ shows certain similarities in terms of practical questions pertaining to subcutaneous administration in palliative medicine, but differs in the principals that guide the use of such an approach. The authors justify in-home continuous subcutaneous infusion of furosemide as an attempt to reduce admissions to hospital, mainly of elderly individuals in functional class III-IV with decompensated heart failure, in turn leading to economic savings. In palliative medicine, the objectives of the health interventions are focused on ensuring the patient's wellbeing by alleviating the suffering caused by a chronic, advanced, and polysymptomatic disease with no possibility of cure. Home treatment is considered as a way of decreasing the discomfort of hospitalization and keeping the patient in an environment that is more familiar and comforting than a hospital.

It is well known that these patients have lower physical activity than other individuals. Indeed, any activity may lead to fatigue, palpitations, dyspnea, or angina. Thus, keeping the patient at home seems very reasonable. In Spain, Home Palliative Care Units visit the patients every few days at their home. Patients admitted to hospital receive control visits once or several times a day. In other countries such as the United Kingdom, nurses specialized in heart failure select candidates for subcutaneous home treatment with furosemide and are responsible for follow-up. In the study reported by Zatarain-Nicolás et al.,¹ follow-up did not occur at home and patients had to attend the clinic every 5 to 7 days for a control visit. The objective of maximizing the comfort of home treatment was therefore lost.

Some methodological aspects appear debatable to us. For example, there is no mention of the patient inclusion criteria.

According to the authors, 39% of patients received maintenance therapy with oral furosemide in addition to subcutaneous furosemide to avoid changes in treatment. Was there no maintenance therapy in the remaining patients? Did they not take furosemide? Although weight loss was statistically significant, 39% did not improve their functional class with subcutaneous treatment. However, the report states that interruption/admission occurred in 17% of cases. Were patients who did not improve able to avoid admission to receive intravenous treatment? Admission for heart transplantation was reported in 2.5%. Were these patients receiving partly palliative or quasi-experimental treatment while awaiting transplantation? There were 24 local complications (infections, abscesses, etc.) in 24 patients. This seems a high rate that increases discomfort and health costs, although it is similar to that observed in other series. These complications are attributed to the irritative effect of the drug itself and not the administration technique, handling of the system, or elastomeric infuser (in any case, it is recommended that health care professionals follow up with the patients at least every 72 hours), and so the standard subcutaneous furosemide formulation is not recommended.⁵

The authors argue that the elastomeric system enables integral and safe outpatient care without daily follow-up. In our understanding, the integral care is provided by an interdisciplinary team, such as the palliative care teams, with as close a follow-up as possible.

Finally, we would note that subcutaneous use of furosemide is becoming more common, but this is an off-label prescription. Well-designed studies to support the efficacy and safety of this route of administration have yet to be performed. We have no doubt that the study was approved by an ethics committee and that the patients gave their informed consent to participate, but we would emphasize that, especially for future studies, patients should always be informed and give their consent for an indication not authorized by the Spanish Medicines and Health Products Agency. The prescribing physicians are responsible for obtaining this consent and for any complications that arise from off-label use.⁶

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Home Subcutaneous Infusion of Furosemide in Advanced Decompensated Heart Failure. Response



Infusión subcutánea domiciliar de furosemida en la insuficiencia cardíaca avanzada descompensada. Respuesta

To the Editor,

We are pleased to see, from the letter sent by Dr. Sancho-Zamora, that the *Revista Española de Cardiología* is expanding the interest in our specialty. We wish to clarify certain aspects.

The letter mentions the term “initial” used in the title.¹ This refers to our own experience with subcutaneous furosemide in chronic heart failure (CHF), a subject on which there is little literature and the published studies are small, even in palliative care.

In CHF, there is a slow, unpredictable deterioration that is interrupted by exacerbations. It is difficult to distinguish between the terminally ill patient requiring palliative care and the patient who can be stabilized, and CHF differs from diseases like cancer, in which the trajectory is linear and predictable. Less than 10% of patients with CHF receive palliative care,² and models of early palliative care are not being developed for patients with CHF in our population.³ It is generally the cardiologist who guides the patient to the end of his or her life after a number of nonfatal decompensations that deteriorate the quality of life. Our aim is to avoid this deterioration; however, Dr. Sancho-Zamora’s criticism is that the avoidance of hospital admissions resulted in economic benefits. This benefit should be confirmed by cost-benefit studies, which are far from what we wanted to achieve with our report. An improvement in quality of life is among the principles of palliative medicine, and by no means does this principle differ from ours.

Likewise, quality of life studies would be necessary to prove that the convenience of home care is “lost” because of weekly visits to the clinic. The use of surrogate parameters (functional class or absence of the need for hospital admission) is an impediment because a patient can become stabilized and improve without there being an improvement in his or her functional class. Of course, we did not allow patients who showed no improvement to be denied hospital admission.

With respect to the succinct methodological explanation due to matters of format, we would explain that our study population included patients with decompensated CHF without respiratory failure, hemodynamic instability, initial clinical picture, or definitive treatments that could change the prognosis.

Other subcutaneous treatments administered in the ambulatory setting, like prostanoids,⁴ are considered safe even if the puncture is not checked every day. In this respect, it is important to instruct patients on self-care and ensure that they can easily contact the unit. This, together with the very extensive experience in the use and safety of furosemide, led us to propose the off-label indication to resolve advanced clinical situations.

Multidisciplinary teams improve the treatment of CHF⁵ and, in our opinion, the systematic implementation of palliative care would be beneficial. Support for these initiatives on the part of scientific societies is essential to fostering interest in these issues, which at present are of minority interest in our specialty.

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