

Review

Integration of Palliative Care in Management of Advanced Heart Failure in Older People: A Case-Based Educational Review

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Abstract

Heart failure (HF)—a highly prevalent condition among older adults—is characterized by recurrent exacerbations and progressive symptom burden, significantly affecting functional autonomy and quality of life. Palliative care may alleviate symptoms and improve quality of life for patients and their families, promoting personalized care aligned with individual preferences. Although international guidelines recommend the early integration of palliative care into standard HF management, its implementation in real-world practice remains limited. Improving awareness and competencies in identifying end-of-life needs and in advance care planning may facilitate earlier integration of palliative care into HF clinical pathways. This paper presents a case of advanced HF in which palliative care was introduced only during the final hospitalization, highlighting the importance of the earlier integration of palliative care throughout the disease trajectory. This paper results from a collaboration between young members of the Italian Society of Palliative Care and the Italian Society of Gerontology and Geriatrics. The case serves as a practical training model for healthcare professionals in applying a palliative care approach to advanced HF. It illustrates key strategies and tools employed across different stages of care, including patient identification, multidimensional assessment, shared decision-making, advance care planning, symptom management, medication review, and palliative sedation.

Keywords: palliative care; palliative sedation; heart disease; older adults; end-of-life



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1. Introduction

Heart failure (HF) is a chronic and progressive syndrome associated with high mortality and morbidity. Patients with advanced HF typically experience a progressive decline in physical functioning and an increasing severity in symptoms, leading to recurrent hospitalizations, unmet needs and reduced quality of life [1–3]. Several guidelines recommend the integration of palliative care into the standard management of HF, advocating for its early implementation and adaptation to patients' needs throughout the disease trajectory, rather than limiting it to the terminal stage or end-of-life setting [4–9]. However, the adoption of a palliative care approach for patients with advanced HF still remains limited in current clinical practice. In this paper, we present a case-based educational review on palliative care management in advanced HF, organized with an alternating structure between the case presentation and the corresponding discussion. Starting from a clinical case of advanced HF inspired by routine clinical practice, we discuss the importance of the integration of palliative care throughout the disease trajectory. The paper is the result of a collaboration between young members of two Italian scientific societies, the Italian Society of Palliative Care and the Italian Society of Gerontology and Geriatrics, and the case presented here is intended as a model for a training program for healthcare professionals on the palliative approach to persons living with advanced HF.

Case Presentation (I): Patient History and Current Admission

A 76-year-old man, with a history of HF due to dilated-hypokinetic cardiomyopathy following treatment for non-Hodgkin's lymphoma, was admitted to the geriatric ward from the Emergency Department. His symptoms included progressive dyspnea, bilateral lower extremity edema, and weight gain of 7 kg over the previous two weeks.

The complete medical history revealed the following comorbidities: atrial fibrillation, hypertension, diabetes, chronic kidney disease grade IIIb KDIGO, iatrogenic hypothyroidism, benign prostatic hypertrophy, previous femur fracture treated with osteosynthesis, and non-Hodgkin's lymphoma in remission at the time of assessment. The patient had received an Implantable Cardioverter Defibrillator (ICD) positioning two years prior and had been hospitalized three times in the past six months due to exacerbations of HF. The full list of daily medications at the time of hospital admission is provided in Table 1 (PANEL A). The patient was a retired medical doctor living at home with his wife, who had recently undergone hallux valgus surgery, and had two sons.

During current hospitalization, the following exams were conducted:

- *Echocardiogram showing severe left ventricular dilatation with contractile dysfunction (ejection fraction 20%), right ventricular dilatation with reduced radial function.*
- *Chest X-ray showing signs of pulmonary edema in the interstitial–alveolar phase and bilateral pleural effusion.*
- *Chest ultrasound showing bilateral pulmonary congestion, characterized by diffuse, coalescent B-lines and mild-to-moderate bilateral pleural effusions, without evidence of focal consolidation.*
- *Arterial blood gas analysis: pH 7.46, PaO₂ 56 mmHg, PaCO₂ 34 mmHg, HCO₃[−] 24 mmol/L, consistent with hypoxemic respiratory failure.*
- *Laboratory tests: Haemoglobin: 9.8 g/L, Creatinine: 3.49 mg/dL, Albumin: 24 g/L, Na: 130 mmol/L, K: 2.9 mmol/L, Nt-proBNP: 25,029 pg/mL.*

The ongoing therapy was adjusted to include intravenous (IV) furosemide 125 mg via continuous infusion, IV canrenone 200 mg daily, metolazone 5 mg daily for three days, and oxygen therapy via nasal cannula (4 L/min). Attempts to transition from intravenous to oral diuretics were unsuccessful. Oxygen therapy was prescribed to support comfort, while non-invasive ventilation was not introduced given the absence of clinical tolerance and the patient's expressed preferences.

Table 1. Overview of the patient’s medical therapy during hospitalization (PANEL A) and 4 weeks after discharge, following medication review by the palliative care team (PANEL B).

PANEL A		PANEL B	
Medical Therapy During Hospital Admission		Revised Medical Therapy	
Medication	Dose	Medication	Dose
Furosemide 500 mg tablet	125 mg 2/day	Furosemide 500 mg tablet	UNCHANGED
		Furosemide 20 mg i.v.	Subcutaneous form, as needed
Bisoprolol 3.75 mg tablet	3.75 mg 1/day	Bisoprolol 3.75 mg tablet	UNCHANGED
Bisoprolol 5 mg tablet	5 mg 1/day	Bisoprolol 5 mg tablet	UNCHANGED
Amiodarone 200 mg tablet	100 mg 1/day	Amiodarone 200 mg tablet	UNCHANGED
Valsartan/Sacubitril 24 mg/26 mg tablet	12 mg/13 mg 2/day		STOPPED
Canagliflozin 100 mg tablet	100 mg 1/day		STOPPED
Apixaban 2.5 mg tablet	2.5 mg 2/day	Apixaban 2.5 mg tablet	UNCHANGED
Ethyl Esters of Polyunsaturated Fatty Acids 1000 mg capsule	1000 mg 1/day		STOPPED
Insulin Aspart IU 100 units/mL	4 IU 1/day 10 IU 2/day	Insulin Aspart IU 100 units/mL	UNCHANGED
Insulin glargine 100 units/mL	30 IU in the evening	INN-insulin glargine 100 units/mL	UNCHANGED
Levothyroxine 112 mcg tablet	112 mcg 1/day		
Lansoprazole 15 mg tablet	15 mg 1/day	Lansoprazole 15 mg tablet	15 mg once a day
Tamsulosin 0.4 mg tablet	0.4 mg 1/day		STOPPED
Calcitriol 0.25 mg capsule	0.5 mg 3/week	Calcitriol 0.25 mg capsule	REDUCED 0.5 mg 1/week
Allopurinol 300 mg tablet	150 mg 1/day		STOPPED
Ferrous sulphate 80 mg tablet	80 mg 1/day		STOPPED
Potassium chloride 600 mg tablet	600 mg 2/day		STOPPED
Alpha epoetin 4000 IU/mL pre-filled syringes	4000 IU 3/week	Alpha epoetin 4000 IU/mL pre-filled syringes	REDUCED 4000 IU 1/week
		Morphine sulphate 10 mg tablet	10 mg 2/day

A consultation with the in-hospital palliative care team was requested to conduct a prognostic evaluation, and facilitate shared decision-making based on a multidimensional assessment of care needs. During bedside evaluation, the palliative care specialist found the patient alert, oriented, and cooperative. The Karnofsky Performance Status was 30, indicating “severe disability requiring hospital admission”, although death not imminent [10]. Physical examination revealed tachypnea, perimalleolar edema and a stage II sacral pressure injury. Additional symptoms were systematically assessed using the Edmonton Symptom Assessment System Revised (ESAS-R) [11] (Table 2).

Table 2. Presence and severity of symptoms assessed during inpatient palliative care consultation using the Edmonton Symptom Assessment System Revised (ESAS-R). The instrument shows severity of symptoms on a scale from 0 (no symptoms) to 10 (worst symptom possible). Table adapted from Hui D. et al. 2017 [11].

Symptom	Severity
Pain	2 [diffuse]
Tiredness	9
Drowsiness	5
Nausea	0
Lack of appetite	6
Shortness of breath	4
Depression	6
Anxiety	7
Well-being	7
Other symptoms	Xerostomia, constipation, cachexia, weight loss

2. Patient Identification, Advance Care Planning and Continuity of Care

Identification of palliative care needs in patients with advanced chronic conditions is a key healthcare priority, strongly supported by the World Health Organization [8,12]. The timely identification of individuals requiring specialized palliative care can improve service provision and quality of life, while reducing unnecessary hospitalizations and non-beneficial interventions [7]. Therefore, the assessment of palliative needs and integration of palliative care into routine management are recommended from the early stages of chronic conditions and not only during advance or end-of-life phases. Early integration refers to the timely identification of palliative care needs and the introduction of a palliative care approach soon thereafter, regardless of prognosis and alongside disease-directed treatment. It also includes the initiation of advance care planning (ACP) in the early phases of the disease, with a periodic reassessment of needs and regular review of ACP throughout the disease course.

In our case, the patient had already experienced multiple hospitalizations and might have benefited from earlier palliative care involvement. To this purpose, a multidimensional and person-centered assessment is recommended, developed across different settings of care and addressing clinical, psychological, social, and spiritual needs, taking into consideration individual and caregiver preferences and care goals. This integrated approach promotes collaboration among patients, families, and healthcare professionals, and facilitates ACP [13–16].

Several tools have been developed and validated to assist healthcare professionals in the early identification of patients who require palliative care [17,18]. The Palliative Needs World Health Organization Collaborating Centre—Catalan Institute of Oncology (Necesidades Paliativas Centro Colaborador de la Organización Mundial de la Salud—Institut Català d’Oncologia—NECPAL CCOMS-ICO©) tool [19] assists clinicians in assessing individuals with advanced chronic conditions, such as end-stage HF, who present with complex health and social care needs and limited life expectancy. The Diagnostic Instrument of Complexity in Palliative Care (IDC-PAL) [20] assists in the assessment of the complexity of patient’s needs, by evaluating factors such as healthcare history, the management of home-based interventions (e.g., ICD), and emotional adaptation difficulties. High-complexity

factors are also assessed, including difficult-to-control symptoms, existential distress, and inadequate family support [20], which may indicate the need for specialist palliative care.

Once the palliative care pathway is formalized, the local specialist team takes charge of the patient's care, ensuring the continuity of assistance following hospital discharge, whether this means providing care at home or admission to a hospice facility. To support comprehensive, multidimensional evaluation at home, several Patient-Reported Outcome Measurements (PROMs) can be used. Some of these are included in the Outcome Assessment and Complexity Collaborative Suite of Measures (OACC), a suite of operational tools for palliative care [21–23] that also features the Integrated Palliative Outcome Scale (IPOS) [24,25]. Then, ACP should be developed, aiming to define the patient's values, goals, and preferred outcomes based on dynamic consensus-building involving the patients, their family, and all healthcare providers. It designates a primary caregiver and may identify a healthcare proxy entrusted with ensuring that the patient's wishes documented in the ACP are honored should the patient lose decision-making capacity [16]. The process is usually documented in written form, in accordance with national regulatory frameworks, and is shared with all healthcare providers involved, as well as the patient's family. ACP plays a pivotal role in delivering person-centered and efficient end-of-life management, reducing non-beneficial interventions and improving satisfaction for both patients and families [13,14,16]. In this context, shared decision-making complements ACP by promoting open communication, offering emotional support, and facilitating informed choices about current and future care. It ensures that decisions are ethically sound and aligned with the patient's values and preferences [15,26–29].

Case Presentation (II): Assessment of Patient's Needs and Advance Care Planning

Following a comprehensive review of the patient's medical history, the palliative team administered the NECPAL 4.0 tool, which indicated the need for palliative care (see Figure 1 for the patient's palliative needs as assessed by the NECPAL tool), and the IDC-PAL tool, which revealed a high complexity level across all the assessed domains (see Figure 2 for details on the complexity of the patient's needs).

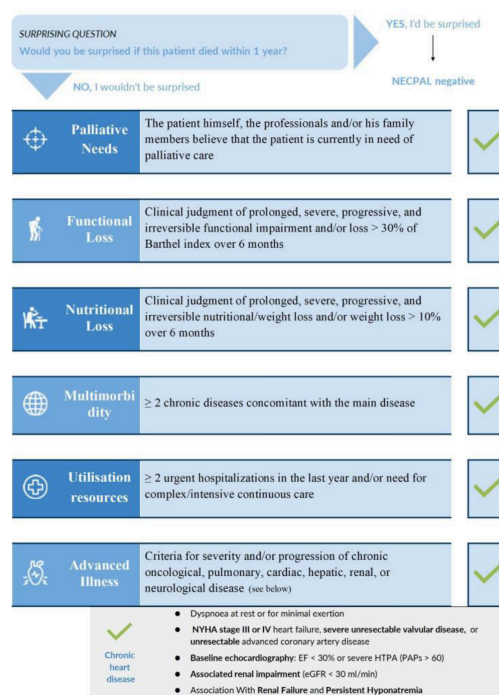


Figure 1. Assessment of palliative care needs with the NECPAL 4.0. EF; ejection fraction; eGFR, estimated glomerular filtration rate.

		Items	Complexity level*	YES	NO
1. Patient	1.1 History	1.1a The patient is a child or adolescent	HC		
		1.1b The patient is a healthcare professional	C		
		1.1c Social-family role performed by patient	C	✓	
		1.1d Previous physical, psychological or sensorial disability	C		
		1.1e Recent and/or active addiction problems	C		
		1.1f Previous mental illness	C		
	1.2. Clinical Situation	1.2a Symptoms difficult to control	HC	✓	
		1.2b Refractory symptoms	HC		
		1.2c Urgent situations in the terminal cancer patient	HC		
		1.2d Last hours/days of life difficult to control	HC		
		1.2e Clinical situations due to cancer progression difficult to control	HC		
		1.2f Acute decompensated organ insufficiency in non-oncological terminal patient	C	✓	
		1.2g Severe cognitive failure	C		
		1.2h Abrupt change in level of functional autonomy	C		
		1.2i Presence of comorbidity difficult to control	C		
		1.2j Severe constitutional syndrome	C		
		1.2k Clinical management difficult due to repeated non-compliance with therapy	C		
	1.3 Psycho-Emotional	1.3a Risk of patient committing suicide	HC		
		1.3b Patient is asking to hasten the process of death	HC		
		1.3c Patient presents existential anguish and/or spiritual suffering	HC	✓	
		1.3d Communication conflicts between patient and family	C		
		1.3e Communication conflicts between patient and healthcare team	C		
		1.3f Inadequate emotional coping by patient	C		
2. Family and environment		2.a Absent or insufficient family support and/or caregivers	HC		
		2.b Family members and/or caregivers not competent to give care	HC	✓	
		2.c Dysfunctional family	HC		
		2.d Family and/or caregiver burden	HC		
		2.e Complex bereavement	C		
		2.f Structural limitations of environment for the patient	HC		
3. Healthcare Organization	3.1. Professionals /Team	3.1a Application of palliative sedation difficult to manage	HC		
		3.1b Difficulty in the indication and/or management of medication	C		
		3.1c Difficulty in the indication and/or management of interventions	C		
		3.1d Limitations of professional competence to address situations	C	✓	
	3.2. Resources	3.2a Difficulty managing or acquiring instrumental techniques and/or specific material at home	C	✓	
		3.2b Difficulty managing coordination and logistic needs	C	✓	

* Score	Items present	Specialized palliative care team
Highly complex	At least one high-complex item (HC)	Highly recommended
Complex	At least one complex item (C)	It might constitute a benefit
Non-complex	None of the items	Not recommended

Figure 2. Assessment of the complexity of palliative care needs with the IDC-PAL.

A multidisciplinary meeting was held with the patient and his family, involving geriatricians, cardiologists, in-hospital palliative care specialists, palliative care nurses and social workers. As the patient expressed a wish to return home to be closer to his family, a personalized discharge plan was developed, including the activation of home-based palliative care coordinated with the local palliative network to ensure continuity and safety. The IPOS captured the patient's concerns and symptoms such as pain, fatigue, and insomnia. In the psychological and spiritual dimension,

significant anxiety and worry were expressed by both patient and family, along with difficulties in adaptation, communication and the understanding of prognosis. Given this assessment and the depressive symptoms outlined during hospital evaluation, structured psychological support was implemented at home, with reported benefit until the end of life (see Figure 3 for the patient's symptoms and needs as assessed by the Integrated Palliative Outcome Scale).

Q1. What have been your main problems or concerns over the past 3 days?

1. I'm tired of living in fear of not being able to breathe
2. I don't want to die in the hospital
3. I'm afraid the defibrillator will discharge

Q2. Below is a list of symptoms, which you may or may not have experienced. For each symptom, please tick one box that best describes how it has affected you over the past 3 days.

	Not at all	Slightly	Moderately	Severely	Overwhelmingly
Pain	☐	☐	☒	☐	☐
Shortness of breath	☐	☐	☐	☐	☒
Weakness or lack of energy	☐	☐	☐	☒	☐
Nausea (feeling like you are going to be sick)	☒	☐	☐	☐	☐
Vomiting (being sick)	☒	☐	☐	☐	☐
Poor appetite	☒	☐	☐	☐	☐
Constipation	☒	☐	☐	☐	☐
Sore or dry mouth	☐	☐	☒	☐	☐
Drowsiness	☐	☒	☐	☐	☐
Poor mobility	☐	☐	☐	☒	☐
Please list any <u>other</u> symptoms not mentioned above, and tick <u>one box</u> to show how they have <u>affected</u> you <u>over the past 3 days</u> .					
1.	☐	☐	☐	☒	☐
2.	☐	☐	☐	☐	☐
3.	☐	☐	☐	☐	☐

Over the past 3 days:

	Not at all	Occasionally	Sometimes	Most of the time	Always
Q3. Have you been feeling anxious or worried about your illness or treatment?	☐	☐	☐	☒	☐
Q4. Have any of your family or friends been anxious or worried about you?	☐	☐	☐	☐	☒
Q5. Have you been feeling depressed?	☐	☐	☒	☐	☐
	Always	Most of the time	Sometimes	Occasionally	Not at all
Q6. Have you felt at peace?	☐	☐	☒	☐	☐
Q7. Have you been able to share how you are feeling with your family or friends as much as you wanted?	☐	☒	☐	☐	☐
Q8. Have you had as much information as you wanted?	☐	☒	☐	☐	☐
	Problems addressed/ No problems	Problems mostly addressed	Problems partly addressed	Problems hardly addressed	Problems not addressed
Q9. Have any practical problems resulting from your illness been addressed? (such as financial or personal)	☐	☒	☐	☐	☐
	On my own	With help from a friend or relative			With help from a member of staff
Q10. How did you complete this questionnaire?	☐	☐			☒

Figure 3. Assessment of patient's symptoms and needs: the Integrated Palliative Outcome Scale (IPOS).

Following the first home assessment, a multidisciplinary team meeting was held to formalize an ACP aligned with the patient's preferences and goals of care. The patient clearly expressed that, in the event of a future HF exacerbation, he wished to avoid hospital admission and preferred to receive symptom-focused care at home under the supervision of the palliative care team. He also discussed his preferences regarding symptom refractoriness, requesting palliative sedation if symptoms became unmanageable. Additionally, after being fully informed of the potential benefits and burdens, the patient asked for ICD deactivation in case of palliative sedation or loss of decision-making capacity, in accordance with his care goals. He formally designated his brother-in-law as his healthcare proxy, authorizing him to make medical decisions should he himself become unable to do so. All information was documented and shared with the care network, including his general practitioner, the geriatrician, the cardiologist, the local palliative care team, and family.

3. Medication Review and Optimization

Medication review is crucial to optimize therapeutic outcomes and minimize the risk of adverse reactions and prescription cascades, which is especially important when approaching the end of life [30–33]. In palliative care, several factors influence the medication review process, including life expectancy, the time required for drugs to produce benefits, difficulties in drug administration, risks associated with discontinuation, and psychosocial factors. Furthermore, a shift in therapeutic goals, from long-term prevention to symptom control, should guide the prescription process when appropriate [34–36]. Indeed, medication review includes both the deprescribing of unnecessary medications and

the optimization of ongoing therapies, as well as anticipatory prescribing for symptom control [37]. Medications that may no longer provide clinical benefit or even contribute to adverse effects should be stopped, when appropriate [38]. It is advisable to withdraw one medication at a time and to proceed with gradual dose adjustments, to minimize the risk of withdrawal symptoms [34]. Certain drug classes require special consideration during deprescribing, including antihypertensive and antidiabetic agents [34,39]. Several tools are available to support the deprescribing process in palliative care, such as the Screening Tool of Older Persons Prescriptions in Frail adults with limited life expectancy (STOPPPFrail) [40] or the OncPal Deprescribing Guideline. STOPPPFrail is specifically designed to identify and discontinue potentially inappropriate medications (PIMs) in frail older adults with limited life expectancy, focusing on symptom control rather than disease prevention [41]. Similarly, OncPal provides a list of PIMs relevant to palliative oncology, accompanied by clinical rationales for the discontinuation or continuation of each medication [42]. Dose adjustments and routes should also be considered during the medication review process [34,43,44].

In advanced HF, when IV access is unavailable or the patient is not able to swallow, subcutaneous furosemide can be used by palliative care specialists, especially in home settings [45,46]. Recent reviews indicate that subcutaneous and IV furosemide offer comparable outcomes in terms of urinary output, weight loss and 30-day hospitalization risk [47–49], also in decompensated HF [50].

In symptom management, the anticipatory prescription of opioids may be considered for patients with chronic dyspnea [51], with preference given to specific molecules with minimal renal excretion (e.g., buprenorphine, fentanyl) in the case of impaired renal function. While evidence on benzodiazepine use is less robust, it may be considered in patients with anxiety or dyspnea-related anxiety [51,52]. Similarly, supplemental oxygen may offer relief to hypoxic patients, although its efficacy on overall symptom control is controversial [51,53–55]. Another relevant aspect is the assessment of sleep-disordered breathing, including sleep apnea, which is highly prevalent in patients with advanced cardiac and respiratory diseases and may contribute to impaired sleep quality, daytime fatigue, and reduced quality of life. Although sleep-disordered breathing was not specifically evaluated in the present case, its recognition and management should be considered as part of a comprehensive palliative care assessment.

In the context of advanced HF, observational studies reported the effectiveness and safety of low-dose morphine administered three to four times daily [56–59]. The latest guidelines from the European Society of Cardiology (ESC) [4] recommend opioids for the management of chronic dyspnea in advanced HF, although robust data from clinical trials are lacking [60,61] and evidence from systematic reviews and meta-analyses showed a limited efficacy of opioids and other interventions for dyspnea relief [53,62,63]. Therefore, treatment should be individualized and opioids may be considered, with gradual titration and dosage adjustments, modulated on symptom control [54,56].

Case Presentation (III): Medical Therapy Optimization

At the time of the first home visit and at each subsequent follow-up, the STOPPPFrail criteria were applied and medications with limited short-term benefit and without relevance for symptom control were discontinued. To facilitate administration by caregivers, weekly formulations were used when feasible. Furosemide was switched to subcutaneous administration, with an elastomeric pump delivering 250 mg over 24 h. The updated list of medications following medical review is presented in Table 1 (PANEL B).

As the patient reported persistent dyspnea, low-dose morphine sulfate was prescribed on an as-needed basis (5 mg as needed) under close monitoring due to the presence of CKD. The dose was then gradually titrated to a fixed dose of 10 mg twice daily, with significant improvement in

symptom control. The expected adverse effect of mild constipation was effectively managed with osmotic laxatives, and no other adverse effects were reported. Furosemide dosing progressively reduced in response to improved fluid retention. After four weeks, furosemide was switched to an oral formulation [125 mg twice weekly], with occasional subcutaneous doses [20 mg] administered as needed to maintain clinical stability. In the following weeks, medical therapy was further adjusted due to worsening dyspnea and progressive dysphagia, and only subcutaneous furosemide and morphine were continued to manage symptoms and ensure patient comfort.

4. End-of-Life Care and Palliative Sedation

In the case of refractory symptoms, palliative sedation (PS) can be indicated to relieve untreatable or otherwise unbearable suffering for the patient [64–66]. According to the Italian Guidelines [67], a refractory symptom can be described as a condition that cannot be adequately controlled with the use of targeted and optimized treatment within an acceptable timeframe and/or with a favorable risk–benefit ratio, ensuring symptom relief without compromising alertness or consciousness. The assessment of symptom refractoriness should be conducted by a multidisciplinary team, ensuring a comprehensive, ethically grounded, patient-centered, and evidence-informed approach to end-of-life care [67]. PS is defined as a medical intervention aimed at alleviating refractory symptoms by proportionally reducing the patient’s level of consciousness to relieve suffering. This definition emphasizes the importance of using sedative medications in a controlled and proportional manner, with the goal of relieving intolerable suffering without hastening death and preserving, when possible, a degree of consciousness to allow interaction with family and healthcare professionals [67]. Two types of palliative sedation exist:

- (1) Palliative sedation for refractory symptoms: used to relieve physical or psychological symptoms unresponsive to optimal standard treatments.
- (2) Palliative sedation associated with withdrawal of life-sustaining treatments: applied following a decision to discontinue interventions that artificially prolong vital functions.

Although evidence on PS in end-stage HF is limited, it has been reported to be appropriate in cases of refractory dyspnea, anxiety and existential distress [9,27,68,69]. Refractory dyspnea is defined as the persistent sensation of suffocation and unbearable suffering despite optimized treatment with opioids, diuretics, and oxygen. Similarly, anxiety and existential anguish, often associated with a perceived “imminence of death”, can exacerbate physical symptoms and contribute to the onset of terminal delirium.

Benzodiazepines, particularly midazolam, are the first-line agents for initiating and maintaining PS, used alone or in combination with neuroleptics and/or opioids (the latter typically already prescribed for pain or dyspnea). Continuous drug delivery is best achieved using electronic or elastomeric pumps. Dosage must be individualized and titrated to achieve the minimum level of sedation required for symptom relief. During PS, monitoring should focus on the alleviation of refractory symptoms rather than sedation depth. PS has to be administered in accordance with national or institutional guidelines and supported by ACP, based either on the patient’s explicit wishes or, if unavailable, through consultation with the designated healthcare proxy and family.

Clear, transparent communication between the healthcare team, patient, and caregivers is essential when considering PS. It must be clearly stated that PS is not intended to shorten life, but to lower consciousness in order to avoid suffering. PS should not be seen solely as the technical act of prescribing and administering sedative medications, but as a relational and clinical process, based on the understanding of patient’s values and preferences within a shared care plan, ideally involving family members. Finally, it should be remembered that PS is not the exclusive domain of palliative care specialists, but should be offered in

any care setting when appropriate, to respect the patient's dignity and ensure the best possible quality of life in the final stages [64–67].

Case Presentation (IV): Palliative Sedation

The patient's conditions progressively deteriorated, with significant functional decline, persistent dyspnea, generalized distress and anxiety unresponsive to repeated doses of oral and subcutaneous morphine and intermittent benzodiazepines.

Following a multidisciplinary assessment that confirmed the refractoriness of symptoms, the palliative care consultant initiated PS, as previously discussed and documented in the ACP. Intravenous midazolam was administered (5 mg boluses every 10 min, 3 total doses), with gradual reduction in the patient's level of consciousness and visible relief from distress. Continuous sedation was subsequently implemented via elastomeric pump delivering a 24 h infusion of midazolam 30 mg, morphine 30 mg, and hyoscine butylbromide 60 mg for the management of respiratory secretions. Rescue doses of midazolam (5 mg IV) were prescribed to manage breakthrough symptoms.

Throughout the sedation process, the care team continuously monitored patient comfort and provided emotional support to the family. ICD deactivation was considered but ultimately not required, as the device did not deliver shocks or cause discomfort to the patient. Bereavement support was offered by the team psychologist, contributing to the serene atmosphere at home. The clinical rationales for PS, medication selection, and dose adjustments were documented and shared among all care team members. The patient died peacefully at home approximately two months after the initial in-hospital assessment, surrounded by loved ones, in accordance with his values and care preferences.

5. Conclusions

In patients with advanced HF, a multidisciplinary, multidimensional patient-centered approach is recommended across care settings, to identify individuals requiring specialized palliative care. This strategy should be implemented from the early phases of care to align treatment with patient preferences and goals, reduce unnecessary hospitalizations and futile interventions, and support the best possible quality of life in the final stages.

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Data Availability Statement: No new data were generated in this study and data sharing is not applicable as this is a case-based educational review.

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Abbreviations

The following abbreviations are used in this manuscript:

ACP	Advance Care Planning
ESAS-R	Edmonton Symptom Assessment System Revised
HF	Heart Failure
ICD	Implantable Cardioverter Defibrillator
IPOS	Integrated Palliative Outcome Scale
IV	Intravenous
OACC	Outcome Assessment and Complexity Collaborative Suite of Measure
PIMs	Potentially Inappropriate Medications
PROMs	Patient-Reported Outcome Measurements
PS	Palliative Sedation

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