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Prevalence of palliative care consultation in hematologic and oncologic patients admitted to the intensive care unit

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Abstract

Introduction: *Palliative care should currently be integrated into the treatment of a patient with terminal or progressive disease from the time of diagnosis, including patients who may require admission to the intensive care unit (ICU). Incorporating palliative care in ICU patients improves patient and caregiver satisfaction, reduces days of stay in the unit, and redirects treatment objectives toward guidelines such as "do not intubate/do not resuscitate" or discharge of patients to palliative care centers.* **Objective:** *The primary objective was to determine the proportion of hematologic and oncologic patients with advanced disease at admission to the ICU who had a palliative care consultation early or before admission.* **Material and methods:** *Cross-sectional, observational, descriptive study. Records of patients over 18 years of age, with advanced oncological and/or hematological disease who were admitted to the central ICU and Oncology of the Hospital General de México Dr. Eduardo Liceaga in 2023 were studied.* **Results:** *Of 40 records studied, 15% received a palliative consultation, of which only 5% were generated within the ICU.* **Conclusion:** *This study showed that 15% of patients admitted to the ICU received a palliative consultation, showing a need to integrate palliative care into the standard of patient care in the ICU.*

Keywords: *Palliative care. Hematology. Oncology. Intensive care unit.*

Introduction

The World Health Organization (WHO) defines palliative care as "an approach that improves the quality of life of patients and their families facing problems associated with life-threatening diseases, through the prevention and alleviation of suffering through early identification, impeccable assessment, and treatment of pain and other problems: physical, psychological, social, and spiritual"[1]. The term "palliative care" is popular, but it is often mistakenly considered identical to "end-of-life care" without any treatment. Up to 75% of patients admitted to the intensive care unit (ICU) experience distressing symptoms, derived from the critical state of the disease, invasive treatments, and the uncertainty of the prognosis, which make the ICU a "hell" for critical patients and their families[2]. Currently, about 10-30% of the world's deceased patients die in the ICU. Many symptoms commonly found in palliative care practice, such as pain, thirst, anxiety, sleep disturbances, and dyspnea, develop in critically ill patients and persist even after discharge from the ICU.

It is important to mention that the family member or primary caregiver may develop symptoms such as psychological and physical distress, including depression, fear, anxiety, fatigue, anorexia, and early symptoms of

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post-traumatic stress, resulting in a post-intensive care syndrome of the family member. In addition, the ICU physician is at risk of emotional and psychological distress when faced with these scenarios[3]. In the recent past, cancer patients were discouraged from being admitted to the ICU due to the risk of unfavorable outcomes. However, the number of patients who may benefit from ICU support has increased, with improved survival rates increasing in several subgroups of patients who were assumed to have adverse outcomes, such as hematopoietic stem cell transplant patients, acute respiratory failure, acute kidney failure, and even patients who received urgent chemotherapy while in the ICU[4].

In hematological patients, there are recommendations in which patients require admission to the ICU, such as the presence of sepsis, respiratory failure, tumor lysis, neutropenic fever, and complications secondary to acute promyelocytic leukemia[5,6]. The ICU environment is affected by high mortality and great suffering, so providing palliative care to critically ill patients and their families is an important goal of care in this setting. Palliative care aims to maintain and improve the quality of life of all patients and their families at any stage of a life-threatening illness[3,7]. The cornerstone of palliative care is patient-centered decision-making. In the case of acute clinical deterioration of ICU patients, which is usually unexpected and with unpredictable results, the role of palliative care becomes less clear, with particular challenges in its implementation[8,9].

A dilemma to consider, both for the patient inside or outside the ICU, is to determine the ideal time to start palliative care. There are three models of care to provide palliative care: (1) the traditional model in which palliative care begins once it has been determined that the disease is out of curative treatment; (2) the early and progressive model in which the transition from curative to palliative care is usually gradual, rather than a specific moment in time, starting as the objective of treatment ceases to be the prolongation of life at any cost and becomes the quality of life; (3) the dynamic model in which palliative care begins at any time of the disease, including moments of crisis in the early stages of the disease[10]. With current models of palliative care, we must understand that palliative care is not the result of failed attempts at care to prolong life, but rather a component of comprehensive care for critically ill patients from the moment they are admitted to the ICU[11]. Around 10-30% of the world's deceased patients die in the ICU[12], so all patients receiving curative treatment should receive palliative care simultaneously and individualized according to the needs and preferences of the patient and their family, as well as discussions of changes in care objectives and adjustments in treatment early in the ICU[3].

Limiting palliative care to "end-of-life" issues is insufficient[13]. The American Society of Clinical Oncology recommends that the combination of standard cancer care and palliative care be considered early in the course of the disease for any patient with metastatic cancer and/or a high symptom burden, i.e., from the time of initial diagnosis, including patients with treatment options in whom life expectancy may still be several years[14]. Despite advances in the field of palliative care and critical medicine, the role of palliative care in the ICU is still not recognized, and there is no consensus on the fundamentals of ICU palliative care practice. The goal of palliative care in the ICU is to foster the development of better-quality care centered on the patient and family from the moment of admission to the ICU[15].

In 2017, Ma et al.[16] conducted a randomized clinical trial at a center in the United States to evaluate whether early palliative care consultation in the ICU could improve patient outcomes and positively impact care compared to standard care. It was intuited that palliative care consultation would increase the decision toward do-not-resuscitate/intubation orders, decrease ICU stay, and use of post-ICU resources. A total of 242 patients were studied, of which 117 patients were assigned to the intervention group and 116 were assigned to the usual treatment group. The first result was that the transition to a do-not-resuscitate/intubation order was significantly greater in the intervention group (50.5%) compared to standard management (23.4%), with a risk difference of +27% (95% confidence interval, 13.6-39.1%; $p < 0.0001$). The secondary outcomes obtained were: discharge to a hospice was higher in the intervention group with 18.6% versus 4.9%; $p = 0.0026$; the duration of mechanical ventilation was shorter by 2 days in the intervention group (4 vs. 6 days; $p = 0.0415$); Tracheostomy during hospitalization was lower in the intervention group (1.0% vs. 7.8%; $p = 0.0354$). In terms of operating costs, care was found in the intervention group of $37,310 USD compared to the control group of $45,790 USD, which was not significantly different ($p = 0.1353$). This study concluded that early palliative care intervention led by experienced and certified palliative care clinicians significantly influenced the decision of a no-resuscitation/intubation guideline, hospice referrals, and the use of medical resources.

In 2022, Rao et al.[17] conducted a systematic review in which they sought to answer what is known about the provision of palliative care in ICUs in low- and middle-income countries. A total of 30 studies, mainly from South Asia and Africa, were included in this review. The areas that were commonly studied were the suspension and withdrawal of treatment; professional knowledge and skills in palliative care, opinions of patients and relatives; culture and context, as well as costs of care. The authors conclude that palliative care in ICUs in low- and middle-income countries is understudied, so research focused on the specific needs of the units is required to ensure optimal outcomes for patients. Helgeson et al. in 2023[18] conducted a prospective, randomized, unblinded clinical trial in a center in the United States that aimed to demonstrate that early palliative consultation (within the first 24 h) would increase patient or caregiver satisfaction as a primary endpoint. In addition, as secondary objectives, ICU stay, code change to do not resuscitate/intubate, admission to a palliative care center, ICU, and hospital mortality. The study included 91 patients, of whom 50 patients were assigned to receive early palliative care and 41 were assigned to receive standard of care, of which 11 patients received palliative consultation 8 days after admission to the ICU. To measure the degree of satisfaction, the family satisfaction 24-ICU survey was applied, obtaining a mean score of 92 points compared to 69 points, with a difference of 23 points and a $p < 0.001$, indicating greater satisfaction in patients who received early palliative care. Secondary outcomes included fewer days of stay in the intervention group (3 days vs. 8 days; $p = 0.018$), greater caregiver satisfaction (93 points vs. 69 points; $p = 0.001$), greater referral to a palliative care center (21% vs. 6%; $p = 0.04$), and greater decisions not to resuscitate/not to intubate (28% vs. 14%; $p = 0.037$); no significance was obtained in terms of lower mortality in the ICU (14% vs. 18% $p = 0.11$). The authors of this study conclude that palliative medicine consultation within 24 h of ICU admission significantly decreased the length of ICU stay and improved patient satisfaction.

Currently, there are no data in Mexico on how many palliative care consultations patients admitted to the ICU receive and whether these impact the course of stay within this unit, so starting to generate data and evidence is necessary to substantiate the need to include palliative care in the care of critical patients within the ICU, since the development of techniques for early detection and the treatment of cancer patients has led to a significant increase in survival rates and the need for ICU admission. Our hospital is no exception; however, it is extremely important to document how many patients with oncological or hematological disease who are admitted to the ICU receive prior consultation for palliative care or an early assessment.

The main objective of this study was to determine the proportion of hematological and oncological patients admitted to the ICU who had an early Palliative Care assessment or consultation before admission.

Materials and methods

An observational, cross-sectional, and descriptive study was carried out with records of patients admitted to the intensive medical care or oncology ICU of the *Hospital General de México Dr. Eduardo Liceaga* during 2023. Adult patients over 18 years of age, with a diagnosis of oncological and/or hematological disease in clinical stage III or IV, and who have been admitted to the aforementioned units during the year 2023, were considered for inclusion criteria. The exclusion criteria were taken into account: (a) records of patients with readmission to the intensive medical unit or oncology intensive care, (b) patients without a biopsy result that confirmed the diagnosis of the disease, (c) death in the first 24 h of admission. This study protocol was approved by the Research Protocol Evaluation Committee of the *Hospital General de México Dr. Eduardo Liceaga,* with approval number DECS/UPO-CT-2555-2024 under the ethical and confidentiality principles of data contemplated by said committee. The data from the files was obtained with information provided by the statistics department and the electronic file software of the *Hospital General de México Dr. Eduardo Liceaga*.

Results

A total of 40 files of patients admitted during 2023 to the Central ICU and Oncology ICU of the *Hospital General de México Dr. Eduardo Liceaga* were studied. Within the demographic characteristics, it was found that the most frequent sex was female with 21 patients (52.5 %) and male 19 patients (47.5 %); The age of the patients studied ranged from 21 to 76 years (mean of 49.4 years). Regarding the basic diagnosis, 25 patients (62.5%) had oncological diseases, that is, solid tumors, and 15 patients (37.5%) had hematological diseases. The average score of the APACHE II scale at the time of admission was 17.8 (range of 12 to 35 points).

Of the types of oncological or hematological diseases with the highest prevalence found, breast, thyroid, and cervical cancer stand out, which together accounted for 40% of the cases studied, followed by intestinal tumors with 20% and acute lymphoblastic leukemia with 15% (Table 1). It is important to mention that although the patients in this study had an oncological or hematological diagnosis as the basis, the reason why they needed care in an ICU was not due in the first instance to the underlying condition, so the main causes that motivated admission to the units were described, which were septic shock in 37.5%. Sepsis of any focus in 20% and hypovolemic shock in 12.5% (Table 2 and Fig. 1). Regarding the main objective of this study, which is to describe the prevalence of palliative consultation in these units, it was obtained that of the 40 files studied, 6 (15 %) received a palliative consultation. Of these, 2 (5 %) patients received an early consultation, and 4 (10 %) patients had received a previous palliative consultation.

Table 1. Oncological or hematological diagnosis

Cancer site	Frequency	%
Brain	3	7.5
ALL	6	15
AML	3	7.5
Ovary	1	2.5
Pancreas	2	5.0
Retroperitoneum	1	2.5
Intestinal	8	20.0
Other	16	40.0
Total	40	100.0

ALL: acute lymphoblastic leukemia; AML: acute myeloid leukemia. In the other section, it includes breast, thyroid, and cervical cancer.

Table 2. Admission diagnoses (reason for admission to the intensive care unit)

Diagnosis	Frequency	%
Septic Shock	15	37.5
Sepsis	8	20
Hypovolemic shock	5	12.5
Exploratory laparotomy	1	2.5
Status epilepticus	1	2.5
Gastrectomy	1	2.5
Acute kidney injury	1	2.5
Tumour lysis	1	2.5
Post-surgical abdominal	1	2.5
Post-surgical bowel resection	1	2.5
Post-surgical craniotomy	1	2.5
Post-surgical hemicolectomy	1	2.5
Post-surgical Whipple	1	2.5
Colon resection	1	2.5
Cardiorenal syndrome	1	2.5
Total	40	100

Discussion

This is the first study of its kind to be carried out in Mexico, since even at the international level, the way in which palliative care can enter ICUs has not been solidly established. When looking for literature on palliative care in the ICUs of the country, it is practically non-existent, which is a good contribution that is made here.

During the performance of this study, one of the inclusion criteria was redirected, which included patients with high mortality, as measured by the APACHE II scale, however, it is difficult to have this criterion given that although the oncological or hematological diagnosis should not be a reason to deny admission to the ICU, it is logical that a high mortality score is a conditioning factor for admission to the ICU in any situation and not only in cancer, so the vast majority of the files studied show a reason for admission due to a critical condition but whose mortality did not reach more than 85%. Sepsis and septic shock continue to have the highest prevalence of ICU admission, even in this study. Hypovolemic shock followed the prevalence of conditions that needed intensive care. It is important to mention that most hypovolemic shocks were of hemorrhagic origin during surgical procedures in most cases.

It is noteworthy that only 15% of the patients studied received palliative consultation; however, when analyzing this figure, it is even more important to note that only 5% of these consultations were carried out early (< 24 h of stay) during the ICU hospitalization, since 10% of the palliative consultations were prior, that is, at some point in the course of the disease, palliative consultation was received; the cases to which palliative care was granted in this study are described in table 3.

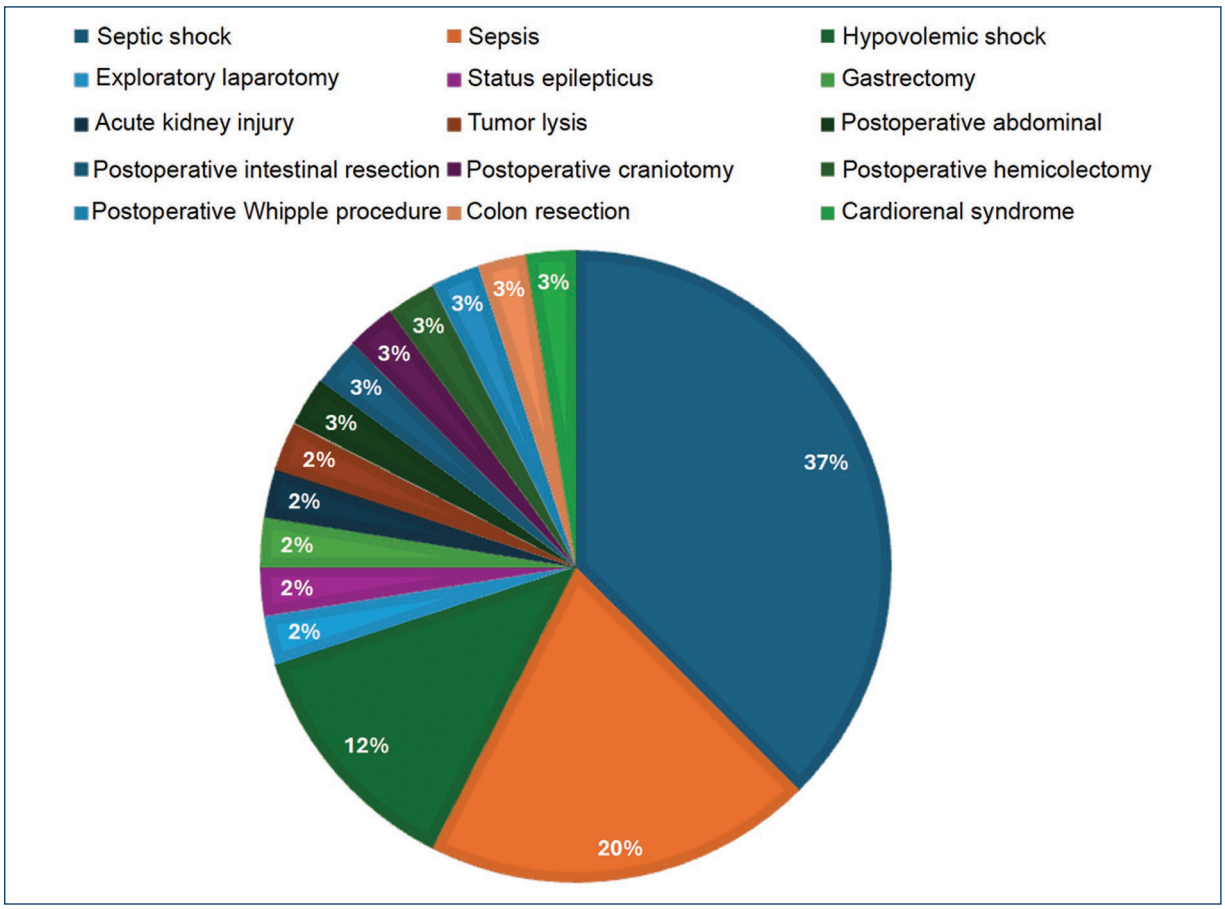

Figure 1. Diagnosis of admission to the intensive care unit.

Table 3. Patients who were granted palliative care

Patient	Gender	Age (years)	Diagnosis	Reason for admission to the ICU	Palliative assessment scales	Palliative treatment
CP_005	Woman	55	Ileocecal valve tumor with lung metastasis	Sepsis	Karnofsky index 30%, PPS 30, ECOG 4	Analgesia, treatment of dyspnea
CP_009	Man	53	Colon adenocarcinoma/ Gastric adenocarcinoma	Post-surgical colectomy	Karnofsky index 80%	Analgesia, information on palliative care philosophy, and thanatological consultation
CP_018	Woman	31	Acute lymphoblastic leukemia/Down syndrome/ Tracheostomy status/Absence seizures/Hypothyroidism	Septic shock	Karnofsky index 50%, ECOG 2	Analgesia, constipation treatment, nausea and vomiting treatment, and home care plan
CP_026	Man	21	Acute lymphoblastic leukemia	Septic shock	Karnofsky index 50%, PAP score 6.5 points, PPI 6 points	Analgesia, delirium treatment, dyspnea treatment
CP_031	Woman	39	Colon cancer	Post-surgical hemicolectomy/ Sepsis	Karnofsky index 50%, PAP Score 10 points, ECOG 3	Analgesia, treatment of opioid side effects
CP_032	Man	44	Acute lymphoblastic leukemia	Sepsis	Karnofsky index 60%, ECOG 2	Analgesia, mucositis treatment

PPS: palliative performance scale; ECOG: Eastern Cooperative Oncology Group; PAP: palliative prognostic score; PPI: palliative prognostic index, ICU: intensive care unit.

This result is consistent with the one provided by the WHO[19] in 2018, which takes into account the global population and not specifically ICU care, reporting that only 14% of people who need palliative care receive it. However, the prevalence of palliative care in this study is lower than that found in other articles that report the need for palliative care within ICUs; the studies are referred to in table 4[1,20-23].

An important fact to mention in this section is that the request for ICU consultation to the Pain Clinic of the *Hospital General de México Dr. Eduardo Liceaga* is made more frequently; however, generally the request is for analgesic treatment. Here, an area of opportunity opens up for ICU staff to request palliative assistance more frequently, and for the pain clinic staff to address not only the analgesic part, but also the patient as an integral being with psychological and spiritual needs, in addition to the physical ones.

Continue with this type of research in other centers or in a multicenter way, also studying other results that the evidence shows as benefits for patients who receive palliative consultation within the ICU, such as greater patient and family satisfaction, fewer days of stay, decision to adequate therapeutic efforts, and greater decisions for orders not to resuscitate or intubate. It is important to continue adding palliative care as a standard of care within ICUs.

Another important aspect to mention is that palliative care should not be limited to the population with oncological/hematological disease, since even at the global level, the WHO[19] refers that the diseases that most require palliative care are cardiovascular conditions in up to 38.5%, followed by conditions such as chronic respiratory diseases in 10.3%. Acquired immunodeficiency syndrome in 5.7% and diabetes in 4.6%; cancer has a demand for care of 34%. The clinical entities referred to above have serious complications that at some point may require attention within an ICU, which further reinforces the idea that palliative care and intensive care must work more closely to provide comprehensive care to the patient.

This can be compared with recent publications, such as the one by Salins et al. in 2024[24], reporting that the need for palliative and end-of-life care in ICUs around the world is often overlooked, mentioning that about 88% of older people have at least one need for palliative care, and patients in the neurological ICU have need rates of up to 62%. This group concludes that comprehensive ICU care planning includes ethical consultation, family education, proactive participation of the palliative care team, discussions about goals of care, and advance planning; it is also recommended that ICU professional teams should have experience in the management of terminal symptoms, as most patients in ICUs experience distressing symptoms such as delirium.

Table 4. Palliative care in the ICU

Author	Year	Type of study	Number of patients	Need for palliative care (%)
Puntillo et al.[20]	2010	Prospective, observational	171	27 a 75
Baldwin et al.[21]	2013	Retrospective cohort	442	88
Hua et al.[22]	2014	Retrospective cohort	53,124	13.3 a 15.8
Creutzfeldt et al.[23]	2015	Prospective cohort	130	62
Neukirchen et al.[1]	2023	Literature review	NA	14 a 20

NA: not applicable; ICU: intensive care unit. Hua et al.[22], Creutzfeldt et al.[23], Neukirchen et al.[1], Salins et al.[24], Chung et al.[25].

Another important aspect to consider when incorporating a non-usual service into the standard care of another unit, such as the ICU, is costs, and in this area, another recent publication was the one carried out by Chung et al. in 2025 in Texas[25] in which patients who receive palliative care reduce the total cost of care by 21% compared to patients who receive usual care. Leaving an opportunity for resource efficiency by incorporating palliative care into routine ICU care.

Little by little, some opinion leading societies in intensive care medicine have addressed the issue, such as the Society of Medicine and Critical Care in the United States, as mentioned above, and the European Society of Medicine and Intensive Care, who in 2024 published guidelines for end-of-life care and palliative care in the ICU[26], who issued different recommendations, two of which are of high level of evidence: (1) implement written communication tools such as brochures or flyers designed for families of ICU patients in all ICUs as a complement to standard oral communication, (2) propose brochures or flyers about grief, combined with structured family meetings before death, to the families of patients at the end of life. With these examples, we can see that palliative care should not be alien to care within the ICU. Providing palliative care to patients who deserve it is not only an indicator of quality, but also that medical practice is carried out with humanity, and it is that as health professionals and mainly in the

medical branch we focus on curing the disease and relieving physical symptoms; the lack of incursion into palliative care makes us put aside psychological needs, emotional and spiritual aspects of patients.

Conclusion

This study shows that of 40 patients admitted to the ICU of our hospital (central or oncology), only 15% received a palliative consultation, and of these, only 5% were requested in the ICU. This study opens the opportunity to carry out more research on the impact that palliative care can generate in patients hospitalized in the ICU.

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Conflicts of interest

The authors declare no conflicts of interest.

Ethical considerations

Protection of human subjects and animals. The authors declare that no experiments involving humans or animals were conducted for this research.

Confidentiality, informed consent, and ethical approval. The authors have obtained approval from the Ethics Committee for the analysis of routinely obtained and anonymized clinical data; therefore, individual informed consent was not required. Relevant ethical recommendations have been followed.

Declaration on the use of artificial intelligence. The authors declare that no generative artificial intelligence was used in the writing or creation of the content of this manuscript.

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