

Clinicopathological Characteristics of Cancer Patients Attending the Urgent Care Unit: Descriptive Study and Literature Review

Aref Zribi^{1*}, Malaz Mudather¹, Saif Alghafri² and Sulaiman Mohammed Saif AlSaadi¹

¹Sultan Qaboos Comprehensive Cancer Care and Research Centre, University Medical City, Muscat, Oman

²Sultan Qaboos university hospital, University Medical City, Muscat, Oman

*Corresponding author: Aref Zribi, Sultan Qaboos Comprehensive Cancer Care and Research Centre, University Medical City, Muscat, Oman

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ABSTRACT

Background: Clinical triage in oncology plays a critical role in managing urgent presentations and allocating healthcare resources effectively. This study aimed to evaluate the clinicopathological characteristics of patients attending clinical triage in medical oncology in Oman, providing insights into demographic, clinical, and management patterns.

Methods: A retrospective study was conducted using data of oncology patients who attended the clinical triage unit at SQCCRC between January and June 2024. Data were collected from electronic medical records, including demographics, clinical symptoms, cancer characteristics, and management strategies.

Results: Our study included 152 cases of cancer: 82 females and 70 males. Gastrointestinal cancer was the most prevalent type (36.18%), followed by breast cancer (24.3%) and gynecological cancer (20.3%). 52% had stage IV cancer. Pain was the most common symptom (75.7%), followed by general fatigue (46.7%) and Gastrointestinal symptoms (36.2%). Laboratory tests were conducted for 90.8% of patients, and imaging studies were performed for 59.9% of patients. 25.7% of patients were admitted to the hospital, and 11.8% experienced a failed discharge. Patients with pancreatic cancer showed a trend toward higher admission rates ($p=0.0522$). Performance status (PS) 3 patients had the highest admission rate (62.5%). Fatigue was the strongest predictor of admission ($p=0.0005$), followed by fever ($p=0.0407$). Poor PS and fatigue correlate strongly with failed discharge outcomes ($p = 0.0021$) and ($p = 0.00055$), respectively.

Conclusion: Poor performance status, fever, and general fatigue were significant independent predictors of hospital admission in patients with cancer. These findings can help clinicians identify high-risk patients who may benefit from early intervention to prevent hospitalization.

Keywords: Clinical Triage Unit; Oncology; Clinicopathologic Characteristics

Abbreviations: PS: Performance Status; ECOG: Eastern Cooperative Oncology Group; GI: Gastrointestinal; CRP: C-Reactive Protein; CT: Computed Tomography

Introduction

Advances in cancer therapy mean more people are living longer with cancer, but are also experiencing late effects and chronic complications that may require urgent care [1,2]. In medical oncology, clinical triage plays a vital role in rapidly identifying and categorizing patients with urgent needs and delivering the proper care at the right time. Assuring the right care is provided at the right time, effective triage not only improves the flow of care but also helps patients feel

supported, manages symptoms promptly, and reduces avoidable visits to the emergency department [3-6]. The Oncology-Specific Urgent Care unit expertly manages acute cancer-related complaints, giving faster care than traditional emergency departments, enhancing the patient experience for high-acuity cases, and reducing unnecessary hospital admissions [4,7,8]. Telephone and remote triage are not just about addressing logistics; they can make a significant difference for patients undergoing chemotherapy [5,6].

By managing symptoms early, these systems can alleviate discomfort, enhance day-to-day quality of life, and facilitate patient engagement in their care. They also create a natural pathway to emotional and psychosocial support, [9,10] offering reassurance, empathy, and tailored coping strategies right from the very first conversation [9,10]. Understanding the rising burden of specific cancer types and contributing demographic and clinical factors is critical for improving healthcare delivery. This study explored the clinicopathological characteristics of patients attending clinical triage in medical oncology, trying to understand demographic, clinical, cancer-related, and management variables. Contribute to the development of evidence-based practices that support efficient and effective care delivery.

Methods

Study Design and Population

This descriptive retrospective study analyzed the clinicopathological characteristics of patients attending the urgent care unit within the clinical triage system of a medical oncology department. Between January and June 2024, we reviewed patients' electronic medical records to gather key information, including demographic details, clinical profiles, cancer-related data, and management approaches. Eligible patients were adults aged 18 years or older with a confirmed diagnosis of any malignancy who were registered in the medical oncology department during the study period. This study was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki and Ethical approval was obtained from our Institutional Review Board and Ethics Committee SQCCRC-IR-B&EC/ 2025-37-1.

Data Collection and Variables

key information of each patient was collected, which included demographic characteristics, presenting symptoms, comorbidities, and cancer-specific details such as type, stage, and treatment phase. We also documented performance status (PS) according to the Eastern Cooperative Oncology Group (ECOG), scale, Management variables included diagnostic evaluations, treatments, and outcomes, such as hospitalization.

Statistical Analysis

The data were investigated using descriptive statistics to summarize patient profiles. To identify predictors of hospital admission and failed discharge (defined as readmission within 30 days), statistical analyses, including chi-square tests and logistic regression, were employed. A p-value of <0.05 was considered statistically significant. Ethical approval for this study was acquired from the ethics committee.

Results

Our study included 152 cancer patients. Over a third of the cases were in people aged 60 and above (37.5%). Gastrointestinal cancer

was the most prevalent type (36.18%), followed by breast cancer (24.3%) and gynecological cancer (20.3%). 52% had stage IV cancer. Pain was the most common symptom (75.7%), followed by general fatigue (46.7%) and gastrointestinal symptoms (36.2%). Laboratory tests were conducted for 90.8% of patients, and imaging studies were performed for 59.9% of patients. 25.7% of patients were admitted to the hospital, and 11.8% experienced a failed discharge. Patients with pancreatic cancer revealed a trend toward higher admission rates ($p=0.0522$). Performance status 3 patients had the highest admission rate (62.5%). Fatigue was the strongest predictor of admission ($p=0.0005$), followed by fever ($p=0.0407$). Poor PS and fatigue correlate strongly with failed discharge outcomes ($p = 0.0021$) and ($p = 0.00055$), respectively.

Discussion

In our study, gastrointestinal cancer was the most prevalent, followed by breast and gynecological cancers. Stage IV cancer and pain were the most frequent stages and symptoms, respectively. Hospital admission occurred in 1 out of 4 patients coming to UCU with pancreatic cancer, and patients with performance status 3 had higher admission rates. Fatigue was the strongest predictor of admission, and both poor PS and fatigue correlated with failed discharge outcomes. The most common cancers among patients visiting the UCU are breast, prostate, and lung cancer. These cancers account for the most significant proportion of cancer-related UCU visits, reflecting their high prevalence in the general population of adults with cancer [2,11,12]. This finding differs from our series reporting gastrointestinal cancer as predominant (36.18%), followed by breast (24.3%) and gynecological cancers (20.3%). Older adults with cancer represent a significant and growing proportion of UCU visits. Acute complications of cancer or its treatment often drive these visits [13]. In our study, the highest proportion of patients fell within the 51–60-year age group (23.0%). This was closely followed by those aged 61–70 years, (21.1%), and the 71–80-year group, which comprised 25 cases. Understanding the patterns, reasons, and risk factors for UCU use in this population is crucial for improving care and outcomes. Older adults (≥ 65 years) account for more than half of cancer-related ED visits, with their proportion increasing annually. The proportion of the “oldest old” (≥ 85 years) is also rising [13,14].

The most common reasons for ED visits among cancer patients include pain, pneumonia, nonspecific chest pain, urinary tract infection, fever, and gastrointestinal symptoms. Lung cancer patients often present with respiratory symptoms, while gastrointestinal cancer patients may have abdominal complaints [1,2,11,15-17]. In our series, pain was the most frequently reported clinical feature, present in 115 cases (75.7%). Fatigue was the second most common symptom, affecting 71 participants (46.7%), followed by gastrointestinal disturbances in 55 participants (36.2%). Fever was documented in 25 cases (16.4%). Gastrointestinal (GI) symptoms such as nausea, vomiting, dehydration, and intestinal obstruction are common, particularly

in patients having chemotherapy or with GI cancers [15,18,19]. Respiratory distress, shortness of breath, and pneumonia are frequent causes for both UCU visits and subsequent admissions, especially in patients with lung and gastrointestinal cancers [11,15,20]. Admission rates from triage units are high, with studies reporting 35–93% of patients requiring hospital admission [4,21]. 39 patients (25.7%) in our cohort required hospital admission, but the majority underwent successful treatment without inpatient management. The most frequent justifications for admission of cancer patients from the UCU are infections (especially sepsis and pneumonia), respiratory symptoms, gastrointestinal complications, uncontrolled pain, and cardiac issues.

These factors often reflect complications from cancer or its treatment, such as neutropenic fever. Infections, particularly sepsis and pneumonia, are among the top reasons for hospital admission from the UCU. Septicemia is associated with the highest odds of inpatient admission for cancer patients [11,15,18,20]. Patients with colorectal, gastrointestinal, blood, lung, and metastatic cancers have a higher risk of admission, while those with prostate cancer have a lower risk [18]. For metastatic cancer patients, factors such as altered mental status, hypoxemia, abnormal white blood cell count, and elevated C-reactive protein (CRP) are independent predictors of admission. They are also linked to higher short-term mortality [22]. Severe pain related to cancer is a significant reason for hospital admissions, particularly in advanced cancer or palliative care settings [15,23,24]. Cardiac symptoms, including chest pain and arrhythmias, are also notable causes for admission, particularly in breast cancer patients [20,25]. In older cancer patients, falls and related injuries are a common reason for UCU visits and can lead to admission [25,26]. Patient comorbidities, cancer types, and certain demographic factors also play important roles [18]. Oncology-specific triage units and observation units can provide timely care; with much shorter wait times compared to traditional emergency departments [4,27].

Most patients managed in observation units for cancer pain are safely discharged home, with low short-term revisit and mortality rates [27]. Inaccurate triage or severity misclassification can defer life saving interventions, especially in scenarios like febrile neutropenia or nuanced oncological emergencies, ultimately worsening the prognosis [28,29]. For gender differences, studies found that men and women had similar rates of UCU visits within both 30 and 90 days after surgery. There were no significant differences in the reasons for returning to the UCU between men and women [30]. For cancer patients visiting the UCU, the most common investigations are radiologic imaging, especially computed tomography (CT) scans along with other diagnostic tests tailored to presenting symptoms. Over 65% of cancer patients visiting the UCU undergo some form of radiologic imaging [31,32]. In our cohort, laboratory explorations were performed in 90.8 % of the cases, representing the most frequently employed diagnostic modality. Imaging studies were obtained in 59.9% of the cases. CTs of the chest, abdomen-pelvis, and head are often requested. Chest CTs are often used to exclude pulmonary embolism, while

abdominopelvic CTs are used for the evaluation of postoperative complications. Head CTs are typically performed for suspected metastasis or neurological changes [31]. While not always specified, cancer patients presenting with symptoms like fever, infection, or sepsis often receive blood tests, cultures, and other laboratory investigations to identify infections or metabolic complications.

Depending on the presenting complaint, additional targeted investigations such as X-rays, ultrasounds, or electrocardiograms may be performed [11,13,32]. Failed discharge, most often measured as unplanned hospital readmission within 30 days, occurs in 7–30% of oncology cases across published series [33]. The 11.8% rate noted in our cohort lies within these established bounds. Among patients with head and neck cancer who had surgery, 30-day readmission rates ranged from 7.3% to 26.5%, with higher rates seen in specific demographic and socioeconomic groups [33]. For colorectal cancer patients discharged early after surgery (within 3 days), the 30-day readmission rate was approximately 7.3% [34]. In cancer patients discharged from the ICU after a decision to forgo life-sustaining therapies, 10.3% were readmitted, and overall hospital mortality was high (80.1%) in this group, indicating a high risk of failed discharge in critically ill patients [35]. Although the frequency of UCU visits was similar, women were more likely than men to be readmitted to the hospital within 30 days of discharge after presenting to the UCU [30]. Higher readmission rates are associated with male gender, lower income, lack of insurance, and discharge to facilities rather than home [33,34,36]. Our study observed a significant association between poor performance status, fatigue, and failed discharge events.

Best-Practice Recommendations for Oncology Urgent Care Triage

There is considerable variability among healthcare providers in the clinical triage of critically ill patients with oncology. This underscores the significance of having clear, evidence-based guidelines and consistent training to facilitate prompt and high-quality decision-making.

Recommendations

1. Implement oncology-specific triage pathways to facilitate the rapid assessment of acute cancer-related presentations and reduce unnecessary emergency department utilization.
2. Routinely assess fatigue and performance status at presentation to identify patients at higher risk of failed discharge.
3. Incorporate remote/telephone triage protocols for symptom management, alongside standardized imaging and laboratory guidelines, to ensure diagnostic testing (e.g., CT scans) is reserved for well defined clinical indications.
4. Deliver structured triage training using concise algorithms designed to identify oncologic emergencies promptly.

5. Collect patient reported outcomes and conduct prospective follow up to monitor rates of failed discharge and unplanned readmission.
6. Embed psychosocial support services and initiate early palliative care referrals for patients with advanced stage disease to optimize symptom control and support shared decision making.

Conclusion

This study provides a comprehensive overview of patients attending an urgent care unit for oncology. The most frequent cancer type was of gastrointestinal origin, and fatigue was found to be a significant predictor of admission. Poor PS and fatigue were strongly related to failed discharge. These findings reinforce the need for an oncology-specific protocol for cancer patients to identify high-risk patients. By facilitating early intervention, such evidence-based guidelines can help reduce avoidable hospitalizations and improve outcomes in the acute cancer care setting.

Declarations

Ethical Approval and Consent to Participate

This study was approved by ethical committee.

Consent for Publication

NA.

Availability of Supporting Data

Yes.

Competing Interests

The authors have no conflicts of interest to declare.

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