

The Role of the G8 Score in Therapeutic Decisions for Elderly Patients With Colorectal Cancer: Experience From the Department of Medical Oncology, Ibn Sina Military Hospital of Marrakech

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Abstract

Introduction: Colorectal cancer predominantly affects older adults. The geriatric assessment tool was developed to identify elderly cancer patients suitable for standard treatment and to guide the optimal treatment plan. **Materials and methods:** A retrospective pilot study was conducted in the medical oncology department, including patients aged 65 and over treated for colorectal cancer. **Results:** We identified 88 patients over 65 years of age: 48 (54.5%) had localized disease, and 40 (45.5%) had metastatic disease. Among patients with localized disease, chemotherapy was indicated in 25 patients (52%); of these, 17 (68%) had a G8 score >14 . Among patients with a G8 score ≤ 14 ($n = 8$), 5 (62.50%) required a dose reduction. Among the metastatic patients, 16 (40%) had a G8 score ≤ 14 . Among those with a G8 score >14 , 5 patients (20.83%) subsequently required dose adjustments, compared to 79.17% ($n = 19$) who received the conventional dose. **Conclusion:** Several limitations must be highlighted regarding the use of the G8 score in colorectal cancer. First, the majority of published studies are observational, with limited sample sizes and heterogeneous conclusions. Second, there is still no randomized controlled trial formally demonstrating that a G8-guided therapeutic strategy improves overall survival or quality of life compared to standard care.

Keywords: Colorectal cancer, geriatrics, chemotherapy, Morocco, G8 score

Introduction

Colorectal cancer is one of the most common malignant tumors, ranking third in incidence and second in mortality. The median age at onset of colorectal cancer is around 70 years (Stewart & Wild, 2014). The difficulty of managing cancer in elderly patients lies in their frailty, which means they have low resistance to both the cancer itself and its various treatments (surgery, chemotherapy, radiotherapy). To manage this group of patients, the oncologist must answer several questions: What type of patient is this? What are their comorbidities? Is this a patient experiencing healthy or unhealthy aging? Are they fit to receive and tolerate anticancer medical treatment? If they are a candidate for treatment, what is the optimal treatment for them, and if chemotherapy is indicated, at what dose should it be given? (Finlayson, 2005). In addition, the risk of cancer increases with age, and 55% of new cancer cases are diagnosed in patients over 65 years. Although elderly patients constitute a heterogeneous population, they are often excluded from clinical trials because of restrictive inclusion criteria (Bellera et al., 2013). Chronological age alone is not sufficient to characterize the heterogeneity of the elderly population, and it is important to identify frail patients who require an adapted treatment plan.

In this elderly population, a geriatric assessment is necessary, particularly using the G8 score, to determine the need for an oncogeriatric consultation (Phelip et al., 2019).

The geriatric assessment tool was developed to identify elderly cancer patients suitable for standard treatment and to guide the optimal treatment plan. It is within this context that the present study was undertaken.

Materials & Methods

A retrospective pilot study was carried out in the medical oncology department of Ibn Sina Military Hospital in Marrakech. Patients aged 65 and over treated for colorectal cancer were identified. The study lasted six years, from January 2020 to December 2025. All included patients were assessed with the G8 score before starting the specific treatment.

Data were collected from the main documents available in the department. For each patient, the following details were recorded: name, sex, age, origin, medical, family, and surgical history, harmful habits, clinical presentation, tumor location, and disease stage.

In total, we recorded 109 patients aged 65 and over who were being treated for colorectal cancer. Among them, 21 patients were excluded for the following reasons: 12 had incomplete records, 3 were lost to follow-up, and 6 patients passed away before starting chemotherapy. After excluding these patients, 88 were kept for the final analysis.

The inclusion criteria were as follows:

- Patients aged 65 and over;
- Informed consent from the patients was obtained before inclusion in the study, and the ethics committee approved the use of existing records;
- Have a G8 score evaluation ;
- Have a complete medical record.

The exclusion criteria were as follows:

- Incomplete file (12 files);
- Lost to follow-up (3 patients) and 6 who died before the start of chemotherapy.

These patients were not included in the data analysis.

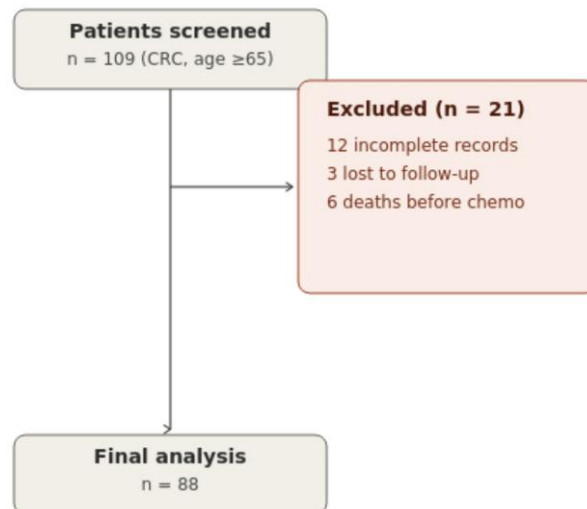


Figure 1: Patient flow diagram (n = 109)

Regarding statistical methods and tools, the G8 score was classified into two groups according to the result: a high-score group (score >14) and a low-score group (score ≤14). For each patient, data were collected from the medical records using a standardized questionnaire.

Descriptive statistics were generated for all the questionnaires, including the G8 score. Sociodemographic and cancer-related characteristics were compared among the participants, and statistical analyses were performed using JAMOVI 2.7.33.

Results

Among 109 patients aged 65 and over followed for colorectal cancer during this period, we identified 88 patients aged 65 and over treated, representing 80.73% (n = 88), with a mean age at diagnosis of 70 years [range 65–82 years]. We noted a male predominance (n = 62) and a male-to-female ratio of 2.38. In the study population, we noted 45 patients (51.14%) with arterial hypertension, 29 patients (32.95%) with diabetes, 16 patients (18.18%) with a history of previous surgery, and 13 patients (14.77%) with heart disease (Table 1)

Table 1 : Demographic data and patient history (n = 88)

Variable	Number	Percentage
Women	26	29.55%
Men	62	70.45%
High blood pressure	45	51.14%
Diabetes	29	32.95%
Surgical history	16	18.18%
Heart disease	13	14.77%
Mean age	70 years	

Before their evaluation, patients were categorized according to disease stage : 54.55% (n = 48) had localized disease and 45.45% (n = 40) had metastatic disease (Figure 1).

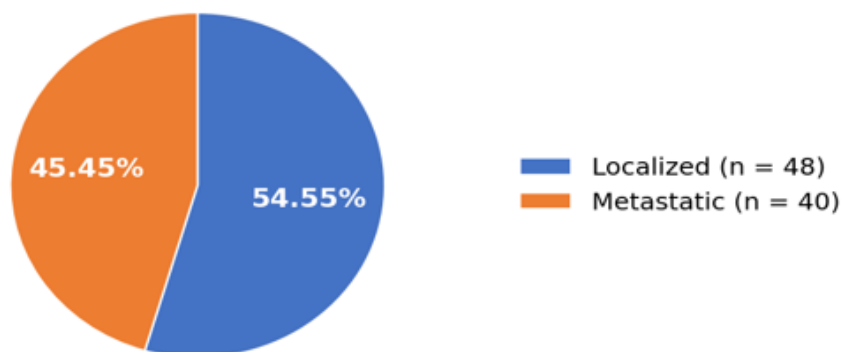


Figure 2 : Distribution of patients by stage of the disease (n = 88)

Among the 48 patients (54.55%) with localized disease, 72.92% were men (n = 35) and 27.08% were women (n = 13). Twenty-three patients with stage I or II disease underwent curative surgery and were monitored after the operation, while the 25 high-risk patients (52.08%) with stage II or III disease received adjuvant chemotherapy.

Of the 48 patients with localized disease, 25 (52.08%) had an indication for chemotherapy according to the guidelines; these patients were further distributed according to their G8 score. Eight patients (32%) had a G8 score ≤ 14 , and 17 patients (68%) had a G8 score > 14 . Among patients with a G8 score ≤ 14 (n = 8), a dose reduction was required in 5 (62.5%), compared with 3 (37.5%) who received the standard dose. Among patients with a G8 score > 14 (n = 17), a dose reduction was required in only 3 (17.65%), compared with 14 (82.35%) who received the standard dose (Table 2).

Table 2: Distribution of localized patients according to doses received and G8 score (n = 25)

Patients with G8 score ≤ 14 (n = 8)		
	Number	Percentage
Conventional dose	3	37.5%
Reduced dose	5	62.5%
Patients with G8 score > 14 (n = 17)		
	Number	Percentage
Conventional dose	14	82.35%
Reduced dose	3	17.65%

In the population with a G8 score ≤ 14 , the most frequent complications were neutropenia, diarrhea, and anemia. The adverse events were related to the treatment, and several toxicities could occur in the same patient; the chemotherapy protocols used were FOLFOX and FOLFIRI.

In our study population, 40 patients had metastatic disease (45.45%). Among this group, there were 7 women (17.50%) and 33 men (82.50%). The most frequently observed secondary sites were the liver (26 cases, 65%), lung (15 cases, 37.50%), and bone (6 cases, 15%); these metastatic sites could be combined in the same patient. Among these 40 patients, 16 (40%) had a G8 score ≤ 14 and 24 (60%) had a G8 score > 14 . Among those with a G8 score > 14 , 5 (20.83%) subsequently required a dose adjustment, compared with 19 (79.17%) who received the conventional dose. Among those with a G8 score ≤ 14 , 9 (56.25%) required a dose reduction, while 7 (43.75%) received the conventional dose. Dose reductions appeared to be more closely associated with the G8 score assessment than with treatment intolerance (Table 3).

Table 3 : Distribution of metastatic patients according to doses received and G8 score (n = 40)

Patients with G8 score ≤ 14 (n = 16)		
	Number	Percentage
Conventional dose	7	43.75%
Reduced dose	9	56.25%
Patients with G8 score > 14 (n = 24)		
	Number	Percentage
Conventional dose	19	79.17%
Reduced dose	5	20.83%

The adverse effects observed were peripheral neuropathy in 32 patients (80%), followed by anemia in 28 patients (70%), hand-foot syndrome in 14 patients (35%), and neutropenia and diarrhea in 12 patients (30%). All of these adverse events were also observed in the population with a G8 score ≤ 14 . The adverse events were related to the treatment, and several toxicities could occur in the same patient; the chemotherapy protocols used were FOLFOX and FOLFIRI, both combined with targeted therapies BEVACIZUMAB or CETUXIMAB.

Discussion

Population aging is leading to an increase in the number of elderly cancer patients. In these patients, the heterogeneity of functional status and comorbidities makes standard clinical assessment insufficient to guide treatment decisions. The updated joint ESMO/SIOG guidelines emphasize the integration of systematic geriatric screening in all patients ≥ 70 years (or ≥ 65 years, depending on the clinical context) before oncologic treatment (Wildiers, 2014; Extermann et al., 2005; Van Cutsem & Cervantes, 2022). These guidelines specify that a high-sensitivity screening tool, such as the G8 score, should be used to identify patients requiring a comprehensive geriatric assessment before major surgery or intensive chemotherapy (Wildiers, 2014; Extermann et al., 2005; Van Cutsem &

Cervantes, 2022). These data support our observation regarding the need for thorough assessment in elderly patients.

The G8 score is a rapid geriatric screening tool comprising eight items that assess key aspects of older adults' health, including nutritional status, mobility, independence, comorbidities, and self-perceived health status. A score ≤ 14 is conventionally used to signal vulnerability requiring a comprehensive geriatric assessment (CGA) (Extermann et al., 2005; Van Cutsem & Cervantes, 2022; Bellera et al., 2012).

Several studies have examined the relationship between the G8 score and treatment tolerance, observing that older patients with a G8 score >14 had a significantly higher likelihood of completing the planned chemotherapy than those with a low score (Kurokawa, 2023; Hara, 2025). A similar pattern was observed in our study, which found that, in the localized and metastatic populations respectively, 17.65% and 20.83% of patients with a G8 score >14 were associated with chemotherapy dose reductions, compared to 62.50% and 56.25% of patients with a G8 score ≤ 14 . In colorectal cancer, this is particularly important as standard regimens (FOLFOX, FOLFIRI) involve neurotoxic and gastrointestinal toxicities that can quickly compromise the autonomy of frail patients. The G8 score may therefore contribute to identifying the need for initial dose adjustments or closer monitoring. Other studies have also reported an association between an abnormal G8 score and an increased risk of high-grade toxicities, unplanned hospitalizations, and treatment interruptions. For example, a G8 score ≤ 14 is associated with a higher incidence of febrile neutropenia, severe diarrhea, and unplanned hospitalizations (Mohile et al., 2018; Kenis et al., 2013; Aparicio et al., 2013). In our study, the most commonly found side effects were neuropathy, diarrhea, anemia, and neutropenia, especially in the population with a G8 score ≤ 14 .

In gastrointestinal cancers, and particularly in colorectal cancer, data are less abundant but converge on the same conclusion: the G8 score may help identify vulnerable patients who could benefit from either dose adjustment or a less intensive treatment strategy.

Furthermore, the universal threshold of 14, although widely used, may not be optimal for all populations or all tumor sites (Hamaker et al., 2012).

Our study has several limitations. Some patients were lost to follow-up or had died by the time of data collection, which limited the completeness of our dataset. In addition, most published studies are observational, with small sample sizes and heterogeneous conclusions, which complicates interpretation and decision-making, and further supports the notion that the G8 score does not replace a full geriatric assessment.

Conclusions

Colorectal cancer disproportionately affects older adults, and managing it comes with several challenges, especially due to their frailty. Our study shows a link between the G8 category and dose adjustments in this retrospective sample, but the score has its limitations, as our results show. Therefore, decisions about care for older adults with cancer shouldn't be based solely on chronological age, since age alone doesn't accurately reflect health status; in fact, older adults are a very heterogeneous group. The G8 score doesn't replace a full geriatric assessment. Randomized controlled trials specifically designed for colorectal cancer are needed to better define the role of the G8 score in future clinical trials.

Conflict of Interest: The authors reported no conflict of interest.

Data Availability: All data are included in the content of the paper.

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Declaration for Human Participants: This study was approved by the ethics committee of Ibn Sina Military Hospital with No.: 05/2026. Informed consent from the patients was obtained before inclusion in the study, and the ethics committee approved the use of existing records.

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