

The Use of Antidiabetic, Antihypertensive, and Lipid-lowering Medications in the Elderly Dying with Advanced Cancer

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Abstract

Background: Maintenance of medications that are unconvincing to the quality of life is difficult to justify in dying terminally-ill cancer patients. **Objective:** We aimed at determining the prevalence of administering antidiabetic, antihypertensive, and lipid-lowering medications to elderly patients dying with cancer. **Methods:** We reviewed the medical records of patients above 60 years of age with advanced cancer who died in a palliative care unit. The collected data included the use of antidiabetic, antihypertensive, and lipid-lowering medications during the last week of life. **Results:** Of 103 patients, 51.5% were female and the median age was 69 years. The most common cancers included gastrointestinal (40.8%), gynecological (13.6%), and head and neck (12.6%). All patients had advanced cancer and 59.2% had hypertension, 52.4% had diabetes mellitus, and 19.4% had dyslipidemia. During their last week of life, 38.8% received antidiabetic, 23.3% received antihypertensive, and 3.9% received lipid-lowering agents. The data showed that 68.5% of people with diabetes received antidiabetic medications, 37.7% of hypertensive patients received antihypertensive medications, and 20% of dyslipidemics received lipid-lowering agents. Hypoglycemia was reported in 7.5% of patients receiving antidiabetic drugs, while hypotension was reported in 66.7% of patients receiving antihypertensive agents. **Conclusion:** Many elderly patients dying with advanced cancer in a palliative care unit were maintained on medications for chronic conditions until the very late stages of their lives. For such imminently dying patients, benefits of such medications are unlikely and burdens are possible. Further research is needed to explore physicians' justifications, if any, for maintaining such patients on apparently futile medications.

Keywords: Cancer, dying, futile medications, palliative care, Saudi Arabia

INTRODUCTION

Patients with advanced cancer are often unnecessarily maintained on medications that do not meaningfully add to their quality of life but may rather increase the risk for adverse reactions and drug interactions in addition to the unjustified financial burden.^[1,2] Such practice is even more difficult to justify when such patients are in their last days of life.

Metabolic syndrome is nowadays a global problem, with high prevalence in Saudi Arabia exceeding 28%.^[3] Hence, the high prevalence of diabetes mellitus, hypertension, and dyslipidemia is seen in Saudi Arabia.^[4-6] These chronic conditions are more common among older adults as is the case with cancer. Therefore, many adults diagnosed with cancer may also be on treatments for one or more of these comorbidities. The aim of this study is to determine the prevalence of administering antidiabetic, antihypertensive, and lipid-lowering medications to elderly patients dying with advanced cancer.

METHODS

This is a retrospective chart review for patients above 60 years of age who died with cancer in the Palliative Care Unit at King Faisal Specialist Hospital and Research Center, Riyadh. The collected data covered 23 months, from February 2010 to December 2011, inclusive. The project was approved by the respective Institutional Review Board before the commencement of data collection. In addition to patients' demographics, we collected data on the use of antidiabetic, antihypertensive, and lipid-lowering medications during the last week of life.

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How to cite this article: Al-Shahri MZ, Sroor MY, Ghareeb WA, Aboulela EN, Edesa W. The use of antidiabetic, antihypertensive, and lipid-lowering medications in the elderly dying with advanced cancer. *Indian J Palliat Care* 2019;25:124-6.

Access this article online

Quick Response Code:



Website:
www.jpalliativecare.com

DOI:
10.4103/IJPC.IJPC_96_18

For patients on antidiabetic medications, we reviewed the medical records for the occurrence of hypoglycemic episodes, defined as a blood sugar of <3.9 mmol/L.^[7] Similarly, for patients on antihypertensive medications, we reviewed the medical record for the occurrence of the hypotensive episodes, defined as a systolic blood pressure of <90 mmHg and/or a diastolic blood pressure of <60 mmHg.^[8]

The statistical procedures included simple frequencies as well as Chi-square tests as appropriate. $P < 0.05$ was considered statistically significant. The Statistical Package for the Social Sciences (SPSS) version 20 (IBM Corp., Armonk, NY, USA) was used for analyzing the data.

RESULTS

Of the 103 patients included, 51.5% were female and the median age was 69 years. The most common cancer categories included gastrointestinal (40.8%), gynecological (13.6%), and head and neck (12.6%). All patients had advanced stages of cancer manifested as metastatic (92.2%) or locally extensive (7.8%) disease. Of the studied patients, 59.2% had hypertension, 52.4% had diabetes mellitus, and 19.4% had dyslipidemia. Table 1 shows further patients' characteristics. During their last week of life, the proportions of patients who were still receiving antidiabetic, antihypertensive, and (or) lipid-lowering medications were 38.8%, 23.3%, and 3.9%, respectively. The disease-specific analysis showed that 68.5% of diabetic patients received antidiabetic medications, 37.7% of hypertensive patients received antihypertensive medications, and 20% of dyslipidemic patients received lipid-lowering agents during the last week of life. During the last week of

their life, 66.7% of patients on antihypertensive medications were reported to experience a minimum of one episode of hypotension. On the other hand, 7.5% of patients who received antidiabetic medications during their last week of life had the experience of at least one episode of hypoglycemia during that period. The maintenance of patients on the studied medications during the last week of their life was not significantly associated with their gender or age group.

DISCUSSION

Maintaining terminally ill patients on unnecessary medications had previously been reported and critiqued by several reports.^[9-12] However, to the best of our knowledge, our data are the first of its kind in the Arab countries to describe the pattern of prescribing antidiabetic, antihypertensive, and lipid-lowering agents among advanced cancer patients in their final week of life.

Various research groups have suggested different definitions to define the futility of a medication in the terminally ill patient.^[13,14] In our study, we focused on a specific subgroup of the terminally ill cancer patients, namely, those in the final week of life who died in a palliative care unit. In such a group of patients, we believe that almost all antidiabetic, antihypertensive, and lipid-lowering medications could be considered futile and should ideally be discontinued. This belief is further supported by the fact that a considerable proportion of the studied patients was found to develop potentially drug-related complications such as hypotension or hypoglycemia.

In our palliative care unit, routine review and reordering of all medications for all patients are mandatory once a week. If a drug was not reordered, it will be automatically discontinued by the hospital pharmacy. This is a hospital-wide procedure aiming at reviewing the list of medications at least once weekly for potential dose modification and drug deletion or replacement as appropriate. Our data suggest that this method is probably insufficient to ensure the discontinuation of futile medications for dying patients and also that there is need for more training of staff involved.

One potential cause of failure to discontinue some futile medications for dying patients might be the hesitancy of physicians to discuss this sensitive matter with the patient and/or the family. Physicians might be worried that patients and families may perceive an offer to discontinue such chronically used medications as a sign of hopelessness and despair. Another possible reason for maintaining dying patients on such futile medications could be the worry among physicians that families may think of the discontinuation of futile medications as being contributory to the patient's death, when the latter occurs.

Irrespective of the real causes of the clinical practice reflected by our data, we believe that in the foreseeable future, there will likely be a shift toward more rational prescribing practices in Saudi Arabia for all patients, including the terminally ill and the dying. This belief is based on the fact that the country is rapidly moving in the direction of privatizing health services

Table 1: Patients' demographics

Characteristic	Frequency (%)
Age (years)	
Median	69
Mean	70.2
SD	7.9
Range	60–94
Sex	
Male	50 (48.5)
Female	53 (51.5)
Cancer type	
Gastrointestinal	42 (40.8)
Gynecological	14 (13.6)
Head and neck	13 (12.6)
Hematologic	6 (5.8)
Other solid tumors	28 (27.2)
Cancer stage	
Metastatic	94 (91.3)
Locally advanced	9 (8.7)
Patients with	
Diabetes mellitus	54 (52.4)
Hypertension	61 (59.2)
Dyslipidemia	20 (19.4)

SD: Standard deviation

and expanding the health insurance system to fully replace the previous system in which the government used to pay for all the health services delivered to Saudi citizens.

Limitations of our study include the fact that it did not investigate the views of the palliative care physicians to explain the rationale of keeping dying cancer patients on the medications under study. It would have also been interesting to explore the views of patients and families about discontinuing chronically used medications based on the physicians' decision on its futility in view of the patients' very limited life expectancy. Although our hospital had the first palliative care program in Saudi Arabia, our findings are single institutional and cannot be generalized to reflect the practice of other palliative care programs in the country.

CONCLUSION

The results of this study have shown that many of the elderly patients dying with advanced cancer in a palliative care unit are maintained on medications for chronic conditions until the very late stages of their lives. For these frail and imminently dying patients, the benefits of such medications are unlikely and the various burdens are possible. Further research is needed to explore the justifications, if any, expressed by health-care professionals maintaining dying patients on antidiabetic, antihypertensive, and lipid-lowering medications.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

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