

Mini Review





Timely identification of malnutrition and cachexia as a first step towards better clinical outcome in cancer patients: a mini review

Abstract

Malnutrition is common in cancer patients and can occur throughout a patient's disease course. The contributors to the clinical syndrome of cancer cachexia are often multifactorial, and produced by the cancer and associated pro-inflammatory response. Google scholar and PubMed database searches were performed to retrieve and study related research articles. In cancer patient's malnutrition negatively affects the effect of anti-cancer therapies, increases side effects and impairs the quality of life (QOL) of cancer patients. Hence there is a need of early identification of malnutrition using screening tools and cachexia to limit its negative consequences on the cancer patients and likely improve overall prognosis of disease.

Keywords: malnutrition, cancer, cachexia, prognosis, quality of life

Volume II Issue 5 - 2023

Nida Sajid Ali Bangash

School of Pharmacy, Monash University Malaysia, Malaysia

Correspondence: Nida Sajid Ali Bangash, Monash University Malaysia, Jalan Lagoon Selatan, 47500 Bandar Sunway, Selangor, Malaysia, Email nida.sajidal@monash.edu

Received: November 01, 2023 | Published: November 14, 2023

Abbreviations: QoL, quality of life; PG-SGA, patient generated subjective global assessment; MNA, mini nutritional assessment; MUST, malnutrition universal screening tool; GLIM, global leadership initiative on malnutrition; ESMO, European Society for Medical Oncology; CPG, clinical practice guideline; ASCO, American Society of Clinical Oncology; PS, performance status

Introduction

Malnutrition and cachexia are the two terms have been misunderstood for many years and been relatively under-researched and under-resourced aspects of cancer supportive care despite the well documentation of issue among more than half of the advanced cancer patients.¹ Weight loss that involves loss of muscle is a major source of distress both for cancer patients and the care taker.² On the other hand, there is limited data and evidence available concerning this issue possibly due to its association with advanced and incurable disease and lack of proactive approach and systemic approach towards its identification, treatment and management.³ It is therefore highly encouraged with regards to the patient centered care that there is an increasing trend of interest towards cancer associated malnutrition and cachexia.

Methods

Google scholar and PubMed database searches were performed. Selection criteria included cancer, malnutrition, cachexiaand research articles from the year 2006 to 2022.

Malnutrition

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Malnutrition is a leading global issue and the most common event in oncology practice.⁴ Malnutrition can occur as a result of the disease itself via physical and metabolic disorders or by the use of anti-cancer therapies used to treat cancer.⁵ Malnutrition can also impede the effects of the anticancer therapies⁶ that can impair patients' quality of life (QOL) and may also reduce long-term survival.^{7,8} Therefore, early identification of malnutrition among cancer patients has been highlighted as the significant step to target patients who can potentially benefit from nutritional intervention programs.⁹

Assessment tools to define malnutrition

A wide variety of tools has been used in the past to define malnutrition across different institutions which could be challenging when implementing a standarised framework to address malnutrition. Despite these differences the reported prevalence of malnutrition among cancer patients has ranged from 21% to 72%.¹⁰⁻¹² There are several assessment tools that can used among cancer patients such as nutritional risk screening 2002,¹³ the patient generated subjective global assessment (PG-SGA),¹⁴ the mini nutritional assessment (MNA) tool,¹⁰ the malnutrition universal screening tool (MUST) and the recently proposed global leadership initiative on malnutrition (GLIM). Among these tools, most commonly used is PG-SGA as it was specifically designed for cancer patients. Till date none of the assessment too has been endorsed but according to the recent evidence there is some consensus about the core concepts that defines malnutrition.¹⁵

Cachexia

There have been different opinions with regards to the definition of cachexia that helps in the diagnosis and management of the disease. Some has argued that weight loss of 10% or more could be clinically significant while others think that weight loss itself would not be sufficient to completely understand the complexity of cachexia instead high loss of muscle mass and weight loss would provide a better understanding of cachexia. In summary, cachexia involves multiple factors such as loss of skeletal muscle mass (with or without fat muscle loss) that cannot be completely reversed with the use of nutritional support and could lead to progressive functional impairment. It could also be diagnosed by weight loss of > 5% or >2% among patients BMI kg/m² or skeletal muscle mass.¹⁶

Despite high prevalence of cachexia among cancer patients it remains underdiagnosed and untreated complex condition which includes 'objective' assessment (e.g. inadequate food intake, weight loss, inactivity, loss of muscle mass and metabolic derangements, inducing catabolism) and 'subjective' components (e.g. anorexia, early satiety, taste alterations, chronic nausea, distress, fatigue and loss of concentration).¹⁷

Pharm Pharmacol Int J. 2023;11(5):161-162.



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In general, anti-cancer therapy is effective and results in improvement of the cachexia signs and symptoms whereas ineffective cancer treatment may aggravate these symptoms.^{18,19} Both European Society for Medical Oncology (ESMO) Clinical practice Guideline (CPG) and American Society of Clinical Oncology (ASCO) guidelines assist medical oncologists the diagnosis, treatment and management of cachexia and its related issues (physical and Psychological) among cancer patients.^{20,21}

The most common symptoms experienced by cachectic patients include anorexia, nausea, bloating, alterations in taste, dysphagia and constipation. In addition to these, some patients may feel breathless and fatigue due to lack of nutritional support that may ultimately impact patient's performance status (PS) and poor QoL. To ensure adequate nutritional care among cancer patients, early detection of patients at risk using standardized screening or assessment tools is vital. Besides this, assessment of all risk patients for their nutritional and metabolic status is equally important.

Decision on cachexia treatment

During the trajectory of the disease the objective and subjective assessment signs and symptoms may vary due to several reasons such a change in the body metabolic patterns, impairment of the physical performance due to anticancer therapies. However, in the end of life care among cancer patients these changes may lose their importance as palliative treatment is only possible at this point. In certain circumstances where disease prognosis is uncertain, requires continuous, honest and empathetic communication with both the patient, caregivers and as well as among all the members of the health professional team to repeatedly re-evaluate the indications for anticachectic interventions for individual patients. Moreover, anticachectic treatment options must include dietary and nutritional interventions and pharmacological interventions.

Conclusion

Patients suffering from cancer often suffer from malnutrition and experience cachexia which is associated with impaired QOLand low survival. This mini review summaries the importance of assessing malnutrition at the earliest and issues regarding identification and management of cachexia among cancer patients. There is a need of more well-established studies and clinical trials to explore more efficient nutritional and treatment options to adequately address these issues among cancer patients.

Acknowledgments

This study received funding in the form of grant from Monash University Malaysia, School of Pharmacy.

Conflicts of interest

There is no conflict of interest reported.

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Citation: Bangash NSA. Timely identification of malnutrition and cachexia as a first step towards better clinical outcome in cancer patients: a mini review. *Pharm Pharmacol Int J.* 2023;11(5):161–162. DOI: 10.15406/ppij.2023.11.00415