

CHANGES IN ONCOLOGICAL PATIENTS: CLINICS AND THE GASTROINTESTINAL TRACT TREATMENT

Alterações clínicas e do trato gastrintestinal em pacientes oncológicos em tratamento

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Abstract: Cancer, because of the increased incidence, has been considered a worldwide public health problem. The objective of the literature review was to present the main clinical aspects and the gastrointestinal tract involved in cancer patients. Malnutrition is a significant factor in cancer patient care, since it is directly associated with a reduction in the patient's response to treatment and recovery, and an increase in length of hospital stay, resulting in decreased quality of life, making the results more critical. It is emphasized that weight loss and the loss of body tissues are a common condition in oncology patients, generally related to the location, type of tumor, presence and duration of gastrointestinal symptoms (mucositis, anorexia, altered taste and altered perception of taste and smell, vomiting, diarrhea and malabsorption of nutrients). Factors which promote the reduction of food intake or the use of nutrients by the body, and recognized as a risk for the triggering of cachexia. The cachectic state of the cancer patient is probably mediated by cytokines that alter macronutrient metabolism, a condition of severe protein-energy malnutrition. Therefore, it is extremely important the assistance of the health team to the patient with cancer and their particularities to maintain or promote favorable conditions of attendance of their health needs, performing periodic follow-up with due intervention in a timely manner to minimize complications. These procedures are of fundamental value for a good result in the adopted cancer therapy and for the quality of life promotion.

Keywords: Cancer; Malnutrition; Risk factors.

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Resumo: O câncer em virtude do aumento da incidência tem sido considerado problema de saúde pública mundial. Objetivou-se com a revisão bibliográfica apresentar os principais aspectos clínicos e do trato gastrointestinal envolvidos nos pacientes portadores câncer em tratamento. A desnutrição é um fator significativo na assistência do paciente oncológico, uma vez que está diretamente associada à redução na resposta ao tratamento e recuperação do paciente, e aumento do tempo de internação, resultando em diminuição da qualidade de vida, tornando os resultados mais críticos. Destaca-se a perda de peso e de tecidos corporais como condição comum em pacientes oncológicos, geralmente relacionada à localização, o tipo de tumor, a presença e a duração dos sintomas gastrintestinais (mucosite, anorexia, alteração no paladar e na percepção do gosto e do cheiro, vômitos, diarreia e má absorção dos nutrientes). Fatores estes promotores da redução da ingestão alimentar ou do aproveitamento dos nutrientes pelo organismo, e reconhecidos como de risco para o desencadeamento da caquexia. O estado caquético do paciente oncológico é provavelmente mediado por citocinas que alteram o metabolismo de macronutrientes, condição esta de desnutrição energético-proteica grave. Deste modo é suma importância a assistência da equipe de saúde ao paciente portador de câncer e suas particularidades para manter ou promover condições favoráveis de atendimento de suas necessidades de saúde, realizando um acompanhamento periódico com a devida intervenção em tempo hábil para minimizar as complicações, condutas de fundamental valor para um bom resultado na terapêutica oncológica adotada e para promoção da qualidade de vida.

Palavras-chave: Câncer; Desnutrição; Fatores de Risco.

INTRODUCTION

Cancer is a group of diseases of progressive, uncontrolled and abnormal cell growth character¹, producing changes in the normal cell, impairing its proliferation function, differentiation, and consequent death.^{2,3}

Pointed as one of the leading causes of death in the world and in Brazil, being therefore an important public health problem.^{4,5,6,7} In 2012, around 14 million people with new cases of cancer in the world were diagnosed, more than 60% occurred in developing countries.⁸ For mortality, the situation is aggravated when it is noted that, of the 8 million deaths, 70% occurred in those countries, today being the second leading cause of death by disease in developed countries, losing only to the cardiovascular disease.^{8,9}

Among the types of cancer that affect the gastrointestinal tract which lead the lists published, the esophagus cancer is the third most common cause of malignant tumors throughout the world, while the second cause of deaths due to gastric cancer.^{10,11} In western countries it has been observed that the majority of deaths by cancer are due to colorectal cancer and in Brazil, this type of cancer has been one of the most important public health problems.⁵

Following the oncologic patients is the development of malnutrition, this varies depending on the type and location of the malignant neoplasm, prognosis and nutritional status prior to the disease.^{12,3} Such factors can trigger the worsening of the general condition of the patient, thus it needs to be identified as early as possible in order to minimize and prevent the clinical damages caused by cancer.¹³

Of the treatments used to combat cancer, it is possible to mention chemotherapy, radiotherapy and surgery, where the treatment used often affects the nutritional status of the patient, who is already weakened by the disease itself associated with the emotional factor.¹⁴ In particular, the Chemo and radiation, toxic effects depending on the exposure time and the plasma concentration of the drug, which can affect indirectly the food intake and the absorption of nutrients as a result of gastrointestinal toxicity such as nausea, vomiting, anorexia, abdominal pain, diarrhea, fever, stomatitis, mucositis and food aversion.^{15,3}

Within this perspective, Bricarello; Vasconcelos; Rodrigues² (2007), emphasize that, when the effects of the cancer or the treatment applied interfere in food consumption, adjustments must be made to ensure the appropriate patient's nutritional support to his or her nutritional needs. Mauricio¹⁴(2014) emphasizes that cancer patients need an individualized nutritional care.

Based on this assumption, the adequate nutritional conduct enables early and essential intervention to detect the presence of malnutrition in oncologic patients and the factors that lead to their appearance and/or aggravation, as well as procedures, to prevent the occurrence of other nutritional disorders¹⁶

In this sense, the objective of this work was to present in the form of literature review addressing the major clinical aspects and the gastrointestinal tract involved in patients with cancer under treatment, with the aim of helping professionals and scholars in their speech with oncologic patients, contributing to the adoption of better medical and dietetics therapy and improvement of the patients' quality of life.

LITERATURE REVIEW

Cancer and cachexia

Cancer is a chronic disease which accounts for the majority of deaths throughout the world.¹⁷ And one of the factors that have contributed to an increase in mortality is the high incidence of malnutrition in these patients which contributes to the increased risk of complications in the patient's nutrition status, a very common oncologic condition manifested in all types of cancer and its intensity will vary according to the type and location of the malignant tumor, and it may lead to an increase in the duration of hospitalization and deaths.¹⁸

In Brazil IBRANUTRI reported malnutrition in oncologic patients when investigated 4,000 patients admitted by the SUS institutions in large Brazilian cities identifying malnutrition in 47.6% of patients. In this study, malnutrition was present among oncology patients, and among the evaluated patients 19.9% with cancer were malnourished.¹²

The prevalence of malnutrition will depend very much on the type and stage of the tumor, of the organs involved, the type of antineoplastic therapy used and the patient's immune response, more prevalent in tumors of the pancreas, lung and gastrointestinal tract, but even so it can be present in a large proportion of malignant tumors^{12,3}

Food and cancer have a relationship which is so important because the nutritional status can be changed by the disease and interferes with the prognosis of the same, making malnutrition in cancer worrying. At the time of diagnosis, 25 to 50% of oncology patients are malnourished and approximately 20% of individuals with malignant neoplasms die as a result of malnutrition.¹⁹ It is worth noting that the same has an influence on the

emotional well-being, self-esteem, pleasure, better conduction of signals of anxieties and even time of greater contact with family members.⁶

Thus, cachexia, a disease aggravated by malnutrition, is characterized by a severe stage of malnutrition, represents immediate cause of death around 10 to 20% of oncology patients.⁴ Its diagnosis is given when there is weight reduction of at least 5% of actual weight during 12 months or less, or when the BMI is below 20 kg/m, this loss associated with the presence of hypoalbuminemia (values inferior to 3.2 g/dl), anemia (hemoglobin values lower than 12 g/dl) and increase of the presence of inflammatory markers - FNT- α , FNT- β , CRP and interleukin (IL)-1, IL-6 and IFN- α .^{20,21}

Cachexia is considered a common syndrome in cancer patients, evident by a negative balance of protein and energy caused by a reduction in the food ingestion and by metabolic disorders.^{17,22} It is classified in three stages according to the severity, namely: pre-cachexia, cachexia and refractory cachexia.²³ Pre-cachexia is equivalent to the onset of the disease, where it is evidenced ponderal loss of 5% of body weight over a 6-month period resulting from anorexia, anemia and a systemic inflammatory reply.¹⁷ The patient's condition is worsened developing cachexia itself. And the third stage (refractory cachexia) is the response to an intense and very advanced cancer process with expressive weight reduction and catabolism which may lead the patient to death in case there are positive results with the anticancer treatment, stage which is characterized by low life expectancy²³

The organism of the oncologic patient reacts to cancer and the treatments, presenting anorexia and immune dysfunction, among others, changes resulting primarily from changes in dietary intake and poor absorption of nutrients, increasing the in-

flammatory status and muscle proteolysis, deficiency of carbohydrates and changes in the metabolism of lipids and proteins, events which can contrabasses' for the development of cachexia.¹⁷

Anorexia and a feeling of early satiety

The loss of appetite or the reduction of the daily food intake is considered as being the main cause of low food intake in cancer patients and the most important factor in the impact of nutritional status, because it entails considerable reduction of protein intake and weight, developing protein deficiency.²⁴ These changes trigger metabolic mechanisms generated by the tumor itself, the toxic effects of the anticancer treatment and the patient's emotional state configuring cachexia.¹⁷

The increase in gastric emptying time, often by reducing intestinal transit, brings a feeling of early satiety, inducing the reduction of food intake.²⁵

The clinical findings indicate as responsible for lower ingestion of food and anorexia in cancer patients, changes in the oral and esophageal cavity, nausea and vomiting, changes in sensitivity and gustatory swallowing and diarrhea.²⁴

Changes in the oral and esophageal cavity

The changes in the oral cavity, represented by inflammations and wounds, characterize the mucositis evidenced in the patients by means of wounds or painful ulcers, with bleeding or not, after the chemotherapy treatment.²⁶ As a result of poor function of the patient's immune system comes with infection in the buccal region, arising from changes represented by the imbalance in the mucosa and oral microbiota that can reach the system, and consequently worsening the disease status of the patient developing signals of more serious infection.²⁷

Not only chemotherapy but also radiotherapy cause erosive wounds along the gastrointestinal tract, such as ulceration in the tongue, mucositis and esophagitis, causing trouble and pain, making the patient reduce his or her consumption of food, in this way, changes in the mode of presentation and consistency of foods must be performed to maintain the caloric support offered to the patient.²⁶

Nauseas and/or vomiting

Nauseas and vomiting are due to side effects of the anticancer treatments, affecting 70 to 80 percent of chemotherapy patients and lead to a reduction in the general intake of food²⁵

Vomiting may occur without nausea, indicating that only some regions of the vomiting center are associated with the feeling of nausea.²⁵ According to the authors aforementioned, vomiting is triggered by the need of the gastrointestinal tract eliminate content, this occurs by the action of brain stimulation (irritation or excitement). The chemotherapy drugs induce the appearance of chemicals - neurotransmitters (dopamine, serotonin, histamine, prostaglandins and gamma-aminobutyric acid), which are exciting of the vomiting center, located at the base of the brain, which triggers the reflex of nausea and vomiting.²⁸

Changes of taste and/or smell

Chemotherapy and radiation therapy can trigger changes in taste (disgeusia), and hence the cancer patient develops an aversion to certain types of flavors and preparations, a metal taste sensation, exacerbation of sweet taste in food and even loss of sense of taste of foods.^{2,3}

Smell is a special sense, because it helps the perception of smells that brings us pleasure (perfumes and normal and spoiled foods), and

detection of the odor of our body. In cancer patient the negative impact of smell and taste can be represented by the low acceptance of foods, the reduction of social interactions during meals, in the reduction of appetite and pleasure in feeding and insecurity in carrying out their daily activities affecting their quality of life.²⁹

Dysphagia

Dysphagia is a prevalent disorder in oncologic patients³⁰. Characterized by difficulty or inability to swallow solid and liquids foods³¹. This disorder in swallowing can bring great morbidity and mortality, due to causing malnutrition and aspiration of food with consequent aspiration pneumonias³.

Nabholz et al.³² (2005) inform the goals for better effectiveness of nutritional therapy in dysphagia and other disorders that affect the feeding of people with cancer: Modulate the feeding to achieve a safe and independent swallowing; offer foods (calories, macro and micronutrients) and water to prevent weight loss and subsequent maintenance of the same, build new tissues and fight infections; guide patients and caretakers in the prevention of aspiration and suffocation episodes; adopt behaviors that reduce or correct side effects of treatment (diarrhea, nausea and vomiting).

Diarrhea and malabsorption of nutrients

Diarrhea is characterized by a large number of evacuations and in consistency with liquid form.³ The diarrhea signals are observed with constancy in patients who undergo the chemotherapy and radiation therapy, and it can be associated or not to abdominal pain, this causes

malabsorption of nutrients, loss of water and electrolytes characterizing the dehydration, leading to a reduction in body weight, sensitivity of body instability and weakness.²

For Dias and Alves⁴ (2009), there is not a model to be followed in the institution of nutritional therapy in cancer patients and thus the nutritional behavior to be taken should be based on individual changes of the patient resulting from the disease itself and the proposed therapy, as well as, the patient's nutritional state. Therefore the professional will be contributing to the improvement of the quality of life of these patients.²

FINAL CONSIDERATIONS

The present study reviewed clinical changes and the gastrointestinal tract originated from cancer patients submitted to antineoplastic therapies, and scientific evidences suggest that weight loss and malnutrition are common conditions in these cases, they may be due to the body changes that occur during and after treatment. Therefore, it is extremely important the assistance of the health team to the patient with cancer and their particularities to maintain or promote favorable conditions of attendance of their health needs, performing periodic follow-up with due intervention in a timely manner to minimize complications, and these procedures are of fundamental value for a good result in the adopted cancer therapy and for the quality of life promotion.

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