

Nutritional Status in Cancer Patients

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Background: The identification of nutritional status (NS) of a patient (PT) with cancer (Ca) can impact the success of cancer treatment and their overall prognosis.

Goals: Define the NS of Ca PT admitted to determine what relationship exists between the NS PT, type of treatment received and the nutritional risk (NR) of antineoplastic therapy, implement the use of nutritional supplements in PT with NR or malnutrition (MNT).

Methods: a prospective, descriptive and analytical study where 52 Ca PT were evaluated during 2014.

Results: the most prevalent type of Ca was colon (17.31%). The VGS initial GP (Subjective Global Assessment PT-generated) showed that 36.5% (n = 19) of the sample showed normal, 42.3% (n = 22) NR and 21.1% (n = 11) MNT. When they were assessed with BMI was seen that 82.7% (n = 43) of the sample showed normal, overweight or obese. As for the percentage weight change (PWC), this was severe in 30.7% (16) cases and significant in 21.2% (n = 11). Importantly, all PT had severe PWC (30.7%), 68.75% had a normal BMI, overweight or obese, but without statistical significance (p = 0.15). PT with gynecological Ca (86.7%) were those who had less weight loss, while PT with other types of Ca (pancreas, head and neck, and lung) were those who had a greater weight loss (60%) (p = 0.006). Of the PT who were not supplemented 22.2% (n = 6) worsened their IN, 7.4% (n = 2) improved, while the rest remained (p = 0.0001) The mortality rate was 21.2% (n = 11) of the total, 27.3% and 45.5% of PT in NR and MNT respectively died (p = 0.008). Lung Ca was the main reason of death in these PT, continuing pancreatic and gastric Ca, in 37.5%, 33.3% and 28.6% respectively, although without statistical significance (P = 0.67).

Conclusions: PT come to the inter consultation when the EN is already deteriorated or advanced MNT. BMI, unlike PWC, is not a good indicator in these PT. In PT with gynecologic Ca more overweight and less weight loss is observed when compared with another Ca. In this study the PT in the NR is independent of antineoplastic treatment, more than half of PT facing therapy NR or MNT. Nutritional support is essential for nutritional intervention in these PT, even more so when indicated early.

Keywords: Cancer; Patients; NS

Introduction

The identification of the nutritional status (NS) of a cancer patient (Ca) can have impact on the success of the antineoplastic treatment and their overall prognosis. In these patients the nutritional risk (NR) and the malnutrition (MNT) can reach the 80%, causing an important deterioration of health, with an increase in complications, reducing the tolerance to the oncological treatment and a reduction of the quality of the patient's life.

Objectives:

- To define the NS of oncological patients admitted to O.I.B. (Oncología Integral Belgrano, Buenos Aires, Argentina)
- To determine what relationship exists between the NS patient, the type of treatment received and the NR of antineoplastic therapy.

- To implement the use of nutritional supplements in patients with NR or MNT.
- To determine the adherence to nutritional treatment after the suggested recommendations.

Materials and Methods

It was made a prospective, descriptive and analytical study in which 52 oncological patients were evaluated during 2018.

It was adapted Spanish group of nutritional and cancer protocol, in which patients are classified into three steps:

1. According to the type of oncological treatment that patients receive, either curative or palliative.
2. According to the NR of the antineoplastic therapy in low, medium, or high risk.
3. According to the Global Assessment Subjective – Generated by the patient (GAS GP), which classifies patients in: A. Patients with normal NS, B. Patients with NR and C. Patients with severe MNT.

It was analyzed the body mass index (BMI) and the percentage weight change (PWC) as valuation methods.

It was indicated nutritional therapy in patients with NR and MNT, and nutritional guidelines for patients with normal NS. The adherence to treatment was determined after the nutritional intervention with a second GAS GP, and the compliance of nutritional guidelines indicated.

All variables in Microsoft Excel 2010 program, average percentages and the chi-square test for qualitative variables were analyzed, considering significant the value of $p < 0.05$.

Results

From 52 evaluated patients, 50% were female and 50% male. The average age was 57.8 years (maximum 84, minimum 24). The most prevalent types of Ca were colon Ca 17.31%, gynecological Ca 11.6% and lung Ca 9.6%. The initial GAS GP showed that 36.5% (n = 19) of the sample showed normal NS, 42.3% (n = 22) NR and 21.1% (n = 11) MNT. The 60% of patients with gynecological Ca had a normal NS according to the GAS GP, the 62.5% of patients with lung Ca and the 50% of the patients with gastric Ca had NR at the time of valuation, but no statistically significant association was found between the location of Ca and the NS. ($p = 1.07$).

When they were assessed with the BMI, it was seen that the 82.7% (n = 43) of the sample showed normal NS, overweight or obesity. As for the PWC this was severe in the 30.7% (16) of the cases and significant in the 21.2% (n = 11) (Table 1). It's important to emphasize that all patients had severe PWC (30.7%), the 68.75% had a normal BMI, overweight or obesity, without statistical significance ($p = 0.15$). Patients with gynecological Ca (86.7%) were those who had less weight loss, while patients with other types of Ca (pancreas, head and neck, and lung) were those who had a greater weight loss (60%) ($p = 0.006$).

CAQUEXIA ro es solo *ANOREXIA* porque

1. Los cambios en la composition corporal difieren entre el ayuro y el caquexia.

[Ayuno: dismirucibn progresiva de la glucoreogenesis.

diminution imporante de la masa

adiposa y utilizacion de cuerpos cetonicos.

Caquexia: solo el 85% del peso perdido corresponde a grasa y se produce ura

disminucion del 75% en la masa muscular]

2. Desproporcier entrela deficiencia de irgestayel grado de desnutriciOr.
3. La perdida de la masa muscular suele preceder a la reducciOn de la ingesta.
4. Reduccion ro tan significativa de la inges:a er funcidn del peso *actual*.

Table: Cuadro 1- Diferencias entre caquexia y arorexia.

There was no statistical significance between the NR according to the antineoplastic treatment and the NS of the patient ($p = 0.48$). The 80% (n = 8), the 60% (n = 15) and the 58.8% (n = 10) of patients receiving antineoplastic treatment with low, medium and high NR respectively were found, according to GAS GP in NR or MNT. 48.1% (n = 25) of patients with NR or MNT received nutritional supplement.

Of these, the 56% (n = 14) recovered body weight related to their first assessment, the 24% (n = 6) kept it and only the 20% (n = 5) lost weight. While those who received no support and only dietetic modifications were made, the 25.9% (n = 7) lost weight and the rest kept or increased weight ($p = 0.017$).

The GAS GP results after nutritional intervention were similar to those found in the initial GAS GP ($p = 0.9$).

A more detailed analysis shows that the 40% ($n = 10$) of the supplemented patients improved the NS, the 52% ($n = 13$) maintained the category B and C, and only the 8% ($n = 2$) got worse their NS. Those patients who were not supplemented, the 22.2% ($n = 6$) got worse their NS, the 7.4% ($n = 2$) improved, while the rest maintained it ($p = 0.0001$).

It was observed adherence to the treatment in the 65.4% of the sample. The 72% ($n = 18$) and the 59.3% ($n = 16$) of patients with and without support respectively showed adherence ($p = 0.34$).

The mortality rate was 21.2% ($n = 11$) of the total, the 27.3% and 45.5% of patients in NR and MNT respectively died ($p = 0.008$), while palliative care was indicated in the 3.4% ($n = 2$) of the sample. Lung Ca was the main reason of death in these patients continuing pancreatic Ca and gastric Ca, in the 37.5%, 33.3% and 28.6% respectively, although there wasn't statistical significance ($p = 0.67$) [1-10].

Discussion and Conclusions

Patients come to the interconsultation when the NS is already damaged or with advanced MNT. The GAS GP and the used protocol are helpful tools to determine the NR in oncological patients, but must be implemented at the time of disease diagnosis.

The BMI, unlike PWC, it is not a good indicator of NS in these patients. It's observed more overweight and less weight loss in patients with gynecological Cancer and compared with other patients.

Lung Ca and gastric Ca are those with higher NR and mortality. In this study, the NS of patient is independent of the NR of the antineoplastic treatment, more than half patients face treatment with NR or MNT.

The nutritional support is essential for nutritional intervention in these patients, even more when it's indicated early. It helps restore or maintain body weight and the NS, and contributes to the effectiveness and adherence to the treatment.

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Volume 3 Issue 5 May 2019

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