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Gastrointestinal Kanserli Hastalarda Nutrisyonal Durum Taraması

Nutritional Condition Scanning in Gastrointestinal Cancer Patients

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ÖZET

GİRİŞ ve AMAÇ: *Malnutrisyon,insan metabolizmasında sistemik inflamasyon ile başlayıp immun yetmezliğe dek uzanan klinik bir süreçtir.Biz bu çalışmada gastrointestinal kanser tanılı hastalarda anket yolu ile tanı anındaki nutrisyon durumunu değerlendirmeyi planladık.*

GEREÇ ve YÖNTEM: *Çalışmaya 52 gönüllü hasta dahil edildi.Hastalar sadece gastrointestinal kanser tanısı konmuş hastalar olup,başka bir sistem kanseri olanlar, tümör ameliyatı geçirenler, neoadjuvan tedavi alanlar çalışma dışı bırakıldı.Tüm hastalara MNA-SF formu uygulanıp vücut kitle indekslerine bakıldı.*

BULGULAR: *Hastalıkların evrelerine bakılacak olursa tanı anında malnütre ve malnütrisyon riski altında bulunan hastalık oranları evre 1 de %50,evre 2 'de %77,8, evre 3'de %72 ve evre 4'de %100 olarak saptanmış olup istatistiksel olarak anlamlılık gözlenmemiştir.Yine BMI ile malnütrisyon oranlarını karşılaştıracak olursak, tanı konduğu anda malnütre ve malnutrisyon riski altında olan hastalar; zayıf hastalarda %100, normal hastalarda %75, fazla kilolularda %76,2, obez hastalarda ise % 50 olarak saptanmış olup istatistiksel olarak anlamlılık gözlenmemiştir(p: 0,222).*

TARTIŞMA ve SONUÇ: *Gastrointestinal sistem kanserleri toplumda çok sık görülen kanserlerdir.Tanı konulunca en kısa sürede nutrisyon durumu taranıp uygun besenme desteği başlanmalır.*

Anahtar Kelimeler: *malnutrisyon, kanser, MNA-SF*

ABSTRACT

INTRODUCTION: *Malnutrition is a clinical process that begins with a deficiency in immune system of human metabolism and dispreads through systematic inflammation.. We have planned a nutritional condition scanning with a simple scanning questionnaire for the patients who are diagnosed with gastrointestinal cancer.*

METHODS: *52 voluntary patients were included in the research. Patients are the patients who had just received the diagnosis of gastrointestinal system cancer. Patients who had received neoadjuvant treatment, who had had a tumor operation and who has another type of cancer were excluded from the study. MNA-SF forms were applied to the patients, and their body mass indexes (BMI), were recorded.*

RESULTS: *When phases of the patients were taken into consideration, rates of illnesses with the risk of malnutrition at the time of diagnosis were 50% for first phase, 77,8% for second phase, 72% for third phase and 100% for fourth phase, and there is not any statistical significance. When we take a look at the comparison between BMI and malnutrition rates, patients who are under the risk of malnutrition; it is designated as 100% for weak patients, 75% for normal patients, 76,2% for over-weight patients and 50% for obese patients, and there is not any statistical significance (p: 0,222).*

DISCUSSION and CONCLUSION: *Gastrointestinal system cancers are the cancers that are observed very frequently among the society. As soon as diagnosis was received by the patient, their nutritional conditions shall be evaluated with nutritional scanning and most appropriate nutritional support shall be provided for those patients.*

Keywords: *malnutrition, cancer, MNA-SF*

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INTRODUCTION

Patients with gastrointestinal cancer have the tendencies of secondary complications such as deficiencies in immune system and infection, due to their disorders (1, 2). These cancers cause serious malnutrition problems for patients especially due to its effects such as early satiety, vomiting, dyspepsia (3). This condition which begins with skeletal muscle atrophy caused by neoplastic cachexia continues with visceral organ atrophy and the tendency of systematic complication increases as a result of this (4). Major surgery and anti-tumor treatment that are added to this table creates negative effects on recovery by increasing the complications of cancer cachexia (5). There are 3 phases of cancer cachexia which are termed as pre-cachexia, cachexia and refractory cachexia (6).

Patients with gastrointestinal system cancer, like other types of cancers, shall begin their nutrition in pre-cachexia period before malnutrition begins. Witt the aim of this, nutritional condition shall be evaluated as soon as the patient receives the diagnosis of cancer and appropriate nutritional treatment shall begin without delay, in accordance with the situation. As well as there are various measurements for evaluation of this, there are also trustworthy questionnaires, validities of which were proven. Within the scope of this study, we have planned to research nutritional condition of gastrointestinal system patients in pre-operative period, after diagnosis, with a trustworthy and validated mini nutrition evaluation test (MNA-SF) consisting of 20 questions .

MATERIAL and METHOD

This study was performed between the dates of September 2014 – September 2015 at General Surgery Clinic by receiving the approval of research ethics committee. Totally, 52 voluntary patients were included in the research. The written consent were reported in all patients. All of the patients are the patients who had just received the diagnosis of gastrointestinal system cancer. These patients were classified as colon cancer, gastric cancer, pancreatic cancer and rectum cancer. Patients who had received neo-adjuvant treatment, who had had a tumor operation and who has another type of cancer were excluded from the study. MNA-SF forms were applied to the patients, and their body mass indexes (BMI), cancer types and phases were recorded. Within the scope of BMI results, patients who are under 18,5 were evaluated as weak, patients whose indexes are calculated between 18,5 – 24,9 were evaluated as normal, patients who are between 25 – 29,9 were evaluated as over-weight and patients who were measured over 30 were evaluated as obese.

MNA-SF Form

In order for evaluating nutritional conditions of the patients, there are practical and validated questionnaires such as Nutritional Risk Screening (NRS), Nutrition Risk İndex (NRI), Malnutrition Universal Screening Tool (MUST), mini nutrition evaluation (MNA),MNA-SF, in addition to anthropometric measurements. While a part of those questionnaires evaluate nutritional condition, a part of them are used in order to predict the results (6). MNA-SF is a test that is commonly used for the evaluation of nutritional condition which shows nutritional condition of elder patients (7). As well is it is applicable in clinic, it can also be applied in General Surgery and oncology polyclinics, practically. It consists of 6 questions in total. Patients who collect 12 – 14 points in total are accepted as normal, who collect 8 – 11 points are accepted as under the risk of malnutrition and patients who collect 0 – 7 points in total are accepted as malnutrition. Evaluations shall be made in accordance with these results, and nutritional treatment of the patient shall be planned.

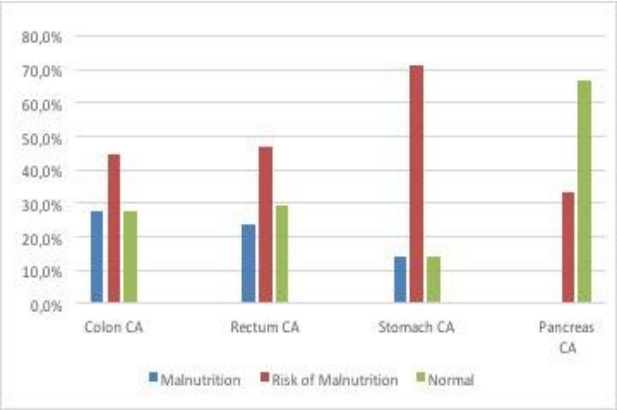
Statistical Analysis

Analysis of statistics was performed by using SPSS (Statistical Package for the Social Sciences, Inc. Chicago, IL, ABD) 17.0 package program. Fisher's exact test or Chi-square tests were used for categorical evaluations. Within the scope of statistical analysis, it is accepted that it is significant when "p" value is lower than 0,05.

RESULTS

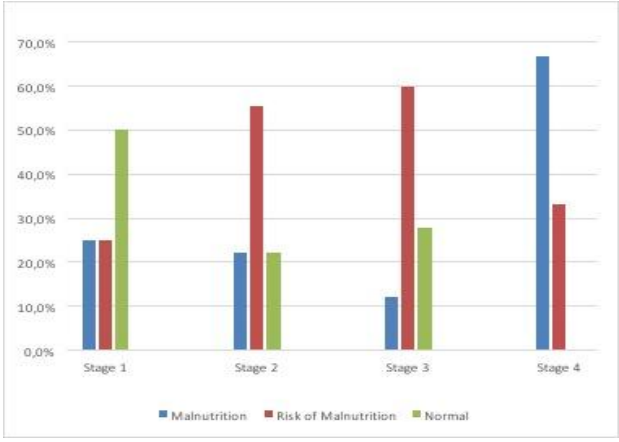
Totally 52 patients were included in the study and 32 (61,5%) of them were male and 20 (38,5%) of them were female. 18 of the attendant patients received a diagnosis of colon carcinoma (ca), 17 of them received a diagnosis of rectum ca, 14 of them received gastric ca and 3 of them received pancreas ca. It was identified that 72% of the patients with

colon ca were under the risk of malnutrition at the time of diagnosis, and in terms of rectum ca, this rate was 70,6%, for gastric ca, it was 85,7% and for pancreas; this rate was only 33,3% and no significant difference was observed in terms of any of them. (p:0,511). (Graphic 1)



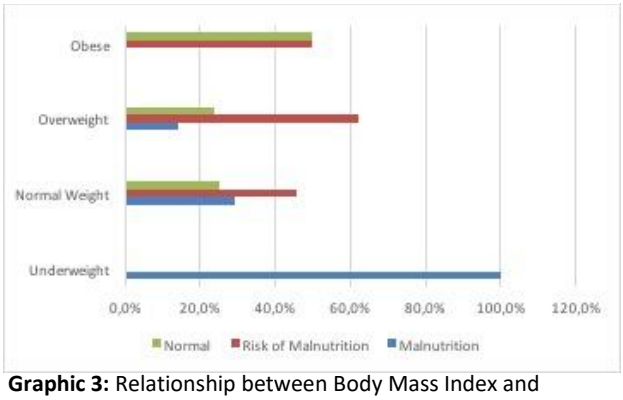
Graphic 1: Relationship between cancer type and malnutrition

When phases of the patients were taken into consideration, rates of illnesses with the risk of malnutrition at the time of diagnosis were 50% for first phase, 77,8% for second phase, 72% for third phase and 100% for fourth phase, and there is not any statistical significance (p:0,340). (Graphic 2)



Graphic 2: Relationship between cancer stage and malnutrition

Again, when we take a look at the comparison between BMI and malnutrition rates, patients who are under the risk of malnutrition; it is designated as 100% for weak patients, 75% for normal patients, 76,2% for over-weight patients and 50% for obese patients, and there is not any statistical significance (p:0,222). (Graphic 3)



Graphic 3: Relationship between Body Mass Index and malnutrition

When MNA-SF scores are taken into consideration in terms of ages, patients with the risk of malnutrition are distributed as, 100% between the ages of 35 – 44, 71,5% between the ages of 45 – 54, 66,6% between the ages of 55 – 74, 75,4% for the patients whose ages are over 60, and there is not any statistical (p:0,635).

DISCUSSION

As it is observed in many cancer types, malnutrition and cachexia that are observed especially in cancers in the parts of head, neck and gastrointestinal parts is a complex process that begins with fat and muscle loss of body and continues with systemic inflammation (8). Major surgery and anti-tumor treatment that are added to this systemic inflammation table affects the patients in a negative way and increases morbidity (5).

For the patients who are to have a gastrointestinal cancer surgery, nutrition condition evaluation shall be made. There are various evaluation methods such as simple anthrometric evaluations, nutritional and C reactive protein (CRP) like serum albumen, pre-albumen, transferrin, immunologic parameters like C3, C4 and questionnaires like MNA-SF, NSR (9-11). In accordance with this condition, nutritional condition of the patient is evaluated before major surgery and supportive treatment may be determined, and time of the operation may be planned. In this way, maximum complication rates to be occurred due to systemic problems are reduced. We used MNA-SF test which is validated within the scope of our study (12). Rajabi et al.(12) have stated that when they procured malnutrition scanning in pre-operation period of gastrointestinal cancer and provide an early nutritional support for the patients who are under the risk of malnutrition, rates of infection and other surgical complications

were reduced in post-operative period. According to MNA-SF evaluation that we had applied at the time of diagnosis, malnutrition and malnutrition risk levels were found as high except for pancreas ca, however, no statistically significant differences were observed. The reason behind why malnutrition rate of pancreas ca is low, we believed as it exhibits the symptoms earlier and its diagnosis is set early. We determined the highest rate in gastric cancer. In a study procured by Sachlova et al (13)., they have stated that there was advanced weight loss and malnutrition in 91 gastric cancer patients, and this situation was caused by malabsorbtion and inflammation.

Again, within the scope of our study, we observed that when the phase of cancer proceeds, malnutrition and risk of malnutrition increases, however we didn't observe any statistically significant difference. There are 3 phases of cancer cachexia which are termed as pre-cachexia, cachexia and refractory cachexia (6). Therefore, nutrition scanning of the patient shall be performed as soon as the diagnosis received and enteral nutrition support shall begin before the disorder changes its phase (6, 13). The planned target shall be pre-cachectic period. It was observed that nutrition support that begins in refractory cachexia period cannot avail systemic inflammation (6).

When we evaluate the condition in terms of age groups, we didn't observe any statistical difference between age groups within the scope of malnutrition scores of gastrointestinal cancer patients. Aging negatively affects all organs and systems by means of structure and functionality and older population is under the risk of malnutrition more than young population in terms of malnutrition (11, 14). However, we attribute the fact that there is no difference in terms aging to the fact that the group gets affected more due to the fact that gastrointestinal cancer is observed especially in early ages. Again, when we compare and contrast MNA-SF and BMI at the time of diagnosis, we observed that in the group with lower BMI, there is a higher risk of malnutrition, however, we didn't observe any statistical differences. We, moreover, evaluate it as the response of general system to immune and resistance of general system against inflammation.

Limitations in this study is less than the expected number of patients.We will believe yhe more patients give better data.

In consequence, gastrointestinal system cancers are the cancers that are observed very frequently among the society. Patients who catch this disease are the patients whose immune systems are weakened and who have the tendency of complications. As soon as diagnosis was received by the patient, their nutritional conditions shall be evaluated with nutritional scanning and most appropriate nutritional support shall be provided for those patients.

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