Correlation Between Two Scales for the Diagnosis of Tumor Asthenia in Primary Health Care Services

Luis Felipe Calle-Cruz, Auxiliadora Fernández-López, Jose Manuel Sevillano Armenta, Carmen Aguilera González, Jesus Damian Turiño-Luque and **Luis Gabriel Luque-Romero**

Servicio Andaluz de Salud, Spain

Tumor asthenia (TA) or tumor asthenic syndrome is a complex multidimensional syndrome that affects all areas of the person: physical, cognitive, psycho-emotional and social, significantly decrease their quality of life. It seems to be related to the tumor type and, above all, to the clinical condition. Etiologically it appears to be related to substances produced by the tumor, comorability (anaemia, malnutrition, endocrinopathies, infection), psychosocial factors, pain, insomnia and/or, above all, to side effects of some treatments.

Minton and collaborators include asthenia as part of the "symptom cluster", i.e. the presence of 2 or more synchronous symptoms that may have a common etiology. This is critical for further evaluation and treatment. Bruera and collaborators differentiate the TA between primary and secondary asthenia. Being the primary, the one associated with a primary or metastatic tumor, and the secondary one that is associated with anemia, cachexia, alterations of cognitive or emotional state (depression), tiredness, endocrine-metabolic alterations, pain, infections, physical deterioration, or side effects of treatments. In the etiology of primary TA, several mechanisms have been postulated: hypothalamus-pituitary imbalance, tumor metabolism, host immune reaction or cancer treatment by increasing pro-inflammatory cytokines (interleukins (TNF-alpha, IL-1, IL-6 or IL-7) and a decrease in anti-inflammatory cytokines (IL-4, IL-5 or IL-10). Fang et al, have revealed the existence of molecular pathways associated with TA.

Prevalence ranges from 35% in neoplastic patients without specific treatment to 99% during or after chemotherapy and radiation therapy. Richardson and colleagues established that up to 45% of patients do not mention this symptom because they think there is no treatment. This is critical for further evaluation and treatment. Bruera and collaborators differentiate the TA between primary and secondary asthenia. Being the primary, the one associated with a primary or metastatic tumor, and the secondary one that is associated with anemia, cachexia, alterations of cognitive or emotional state (depression), tiredness, endocrine-metabolic alterations, pain, infections, physical deterioration, or side effects of treatments. In the etiology of primary TA, several mechanisms have been postulated: hypothalamus-pituitary imbalance, tumor metabolism, host immune reaction or cancer treatment by increasing pro-inflammatory cytokines (interleukins (TNF-alpha, IL-1, IL-6 or IL-7 Therefore, it is an underdiagnosed and undertreated problem as its expression by the patient is complex.

Once the Pathogenesis is established the scales that are designed for the diagnosis of TA differ between those that measure primary asthenia primary or one-dimensional

(Brief Fatigue Inventory, Fatigue Severity Scale, Rhoten Fatigue Scale, etc.)

and the multidimensional (Fatigue Symptom Inventory, FACT, Facit-F, EFAT, MSI-20, etc.). The first measure the intensity of the asthenia. They are brief and good screening methods, but don't let them get used. When done properly, they have good internal consistency and re-test reliability. The multidimensional, longer, assess quantitative and qualitative aspects of asthenia. They allow you to compare studies and identify specific mechanisms of fatigue. The individual validity of the sub-coves varies, sometimes its reliability is unacceptable.

Due to the characteristics of clinical practice in Primary Care (care pressure, poor training in Oncology and Palliative Care, etc.),a questionnaire was designed to identify and quantify the degree of asthenia in cancer patients, in a simple and effective way. In order to homogenize diagnostic criteria, asthenia was defined according to the criteria of the classification of internalization to diseases-10 (ICD-10), that's why we created a questionnaire based on those criteria and given the name of the modified ICD-10 questionnaire (ICD-10m). Impleamosthe Karnosfky index (KI), a widely used and well-known functionalscale, in order to graduate the ICD-10m questionnaire to detect and stratify the degree of TA.

In a second stage, reliability, validity and sensitivity to change was assessed establishing a correlation with the Perform cuestionario that presented good reliability with extreme scores (<5%),La consistencia interna fue satisfactoria (valor alfa de Cronbach global: 0,935), Internal consistency was satisfactory (alpha value of cronbach overall: 0.935). The test-retest reliability (global intraclass correlation coefficient of 0.832) the questionnaire presents strong evidence of FACT-F validity (correlation 0.8) and the generic Nottingham Health Profile questionnaire (correlation 0.69). It is also consistently correlated with the KI.

Finally, both the overall score and the perform questionnaire dimension scores were sensitive to changes in the patient's self-sensed health status, especially when this change was worsening.

Objective: Analyze the diagnostic validity of the modified ICD-10 scale to evaluate and classify tumor fatigue in cancer patients in primary health care services, comparing it to the KI we use as Gold Standard. Secondaryly, we will analyze the degree of correlation with the Perform questionnaire.

Methods: Multicenter cross-sectional descriptive study (Clinical Management Units of Castilleja de la Cuesta, Gines, Bormujos and Tomares de Sevilla) of the Aljarafe-Sevilla Norte Health District. Initially, 67 patients who suffered from cancer disease and met the inclusion criteria (over 18 years of age with cancer who had signed consent to participate) were selected and did not meet the exclusion criteria (clinical evidence of non-tumor fatigue, cognitive impairment or severe psychiatric disorder). Eventually, only 61 were included.

Personal interviews were recorded.

The variables analyzed were: age, sex, type of tumor, specific antineoplastic treatment in the last twelve months, terminal cancer disease, KI and tumor asthenia according to ICD-10 adapted, gradations are established between the two scales. The correlation between ICD-10 and the Perform Questionnaire will then be analyzed. A statistical, descriptive, inferential and correlation analysis was performed using the tests appropriate to the characteristics of each variable.

Results: the modified ICD-10 questionnaire detected fatigue in 70.5% of cases while the KI did so in 78.7.%. A partial and statistically significant correlation between modified ICD-10 and KI was found in patients with lung, breast, prostate, colon and rectal cancer, referring to the presence of fatigue.

In addition, there is a linear, inverse and statistically significant relationship between these two main instruments (correlation coefficient -0.902) in cuanto to breast, lung and prostate($p<0,001$).

Conclusions: Adapted ICD-10 criteria can evaluate and grade fatigue in cancer patients and these results can be supported by using KI as a complementary tool.

The evaluation of the results of the correlation between the modified ICD and the Perform questionnaire is pending, having been the project approved by the Research Bioethics Committee.