

Undernutrition In Oncology : Results Of A Prevalence Study In Medical Department Of Pierre & Marie Curie Center In Algeria

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Abstract

Undernutrition in cancer is the result of a combination of metabolic dysfunction and anorexia, caused by the tumor itself or by its treatment. It is associated with lower tolerance to cancer treatment due to increased toxicity, lower adherence, increased rates of complications, poor postoperative outcomes, longer hospitalization and poor quality of life.

Materials and method

A one-month nutritional status assessment was conducted in all cancer patients at the Pierre and Marie Curie Centre Medical Oncology Unit.

Results

A total of 250 patients (150 men and 100 women) were included, with ages ranging from 18 to 80 years. Of these patients, 200 were in the course of treatment, 22 were followed in consultation before the start of treatment, and 28 were in remission after treatment.

In terms of prevalence, 51% of cancer patients were undernourished, of which 42% were head and neck cancers, 33% were digestive cancers and 22% were gynecological cancers.

41% of newly diagnosed patients had a decrease in ingesta (Food materials introduced into the body).

14% were cachectic, with a distribution as follows: 6% for head and neck cancers, 5% for digestive cancers and 3% for gynecological cancers.

Conclusion

Despite the improvement of cancer therapies, the prevalence of undernutrition remains very high in cancer patients, affecting 51% in our series.

Malnutrition is associated with poorer prognosis and impaired treatment outcomes such as surgery or chemotherapy.

Date of Submission: 08-12-2023

Date of Acceptance: 18-12-2023

I. Introduction

Malnutrition in cancer is the result of a combination of metabolic dysregulation and anorexia, caused by the tumor itself or by its treatment [1]. According to Global Leadership Initiative on Malnutrition (GLIM) 2018, it is defined as a clinical condition resulting from lack of nutrient intake/assimilation, leading to weight loss and/or impairment of body composition and altered clinical outcomes [2]. It is associated with a lower tolerance to cancer treatments due to increased toxicity, poor compliance lower, increased complication rates, poor postoperative outcomes, longer hospitalization, and poor quality of life [1,3,4,5,6,7]. For patients, the repercussions of this malnutrition are not only physical, but also psychological, cognitive, and social [8,9]. Malnutrition can affect 75% of cancer patients with a wide range of prevalence which varies according to the type and stage of the tumor, the type of treatment, the age of the patients and the healthcare environment [3,10-16]. Approximately 15% to 50% of all cancer patients have nutritional deficiencies at the time of diagnosis, while 43% have malnutrition and 9% are cachectic, during the first visit to an oncology department [15-18]. This prevalence increases during treatment, reaching up to 80% of patients. Malnutrition linked to cancer represents up to 20% of cancer deaths and this in leading to cachexia, a predictor important of the survival global [19-21]. Patients' nutritional problems must be considered as a continuum, in a ideal line from early signs and symptoms of anorexia to cachexia and refractory cachexia. Like in a pyramid, refractory cachexia represents the highest, while that there vast base is made up of nutritional insufficiency initial [22]. However, it is well known that the effectiveness and impact of any nutritional intervention are linked at the time of treatment, the best results being obtained with early intervention [23]. Therefore, it is essential to periodically evaluate cancer

patients at during the different phases of the treatment pathway. In fact, nutritional status is not a fixed condition, but a variable state. The tumor stage, the type and context of treatment and the Comorbidities influence the nutritional needs of the patient, requiring continuous assessment of the ways nutritional, inflammatory, and metabolic. Of more, he there are huge difference between tumor types and treatment parameters, so that one can adapt the interventions nutritional in function of risk existing [3,4]. Available evidence suggests that early clinical nutritional interventions are associated with a reduction in treatment-related toxicity, an increase in the intensity of relative dose and fewer delays in cancer treatment. Additionally, early assessment of the patient's nutritional status and monitoring throughout treatment are recommended, in order to improve treatment tolerance, clinical results and quality of life [3,4].

II. Materials And method

An assessment of nutritional status was carried out over a period of one month in all patients. presenting A cancer, in the service oncology medical of Pierre Center and Married Curia (CPMC). Patients were considered eligible if they were aged over 18, capable of give their consent illuminated and their weight usual. Their weight current and their size current have summer noted by a team of specialist doctors. Patient's body weight in clothing light was determined to the nearest 0.5 kg with a calibrated and controlled analog scale. The size of the patient was measured with a portable stadiometer to the nearest 0.2 cm. Weight and height were used For calculate the index of body mass (BMI). Performance status was determined on the day of the study using the definition of the World Health Organization (WHO). Other data collected on the day of the study included the date of birth, the sex of the patient, the type of hospitalization (conventional or ambulatory), the primary tumor site, the presence of metastases, the treatment received and the care of support including nutritional supplementation. Patients were selected from 03 units different which are cancers of the head And of neck , cancers gynecological And digestive cancers .

Three criteria of undernutrition (according to there HAS) are taken in consideration :

- The percentage of weight loss, (in how long) “main criterion” = ((The Weight usual - current weight) / Usual weight) *100.
- BMI.
- THE level ingesta (0 to 10).

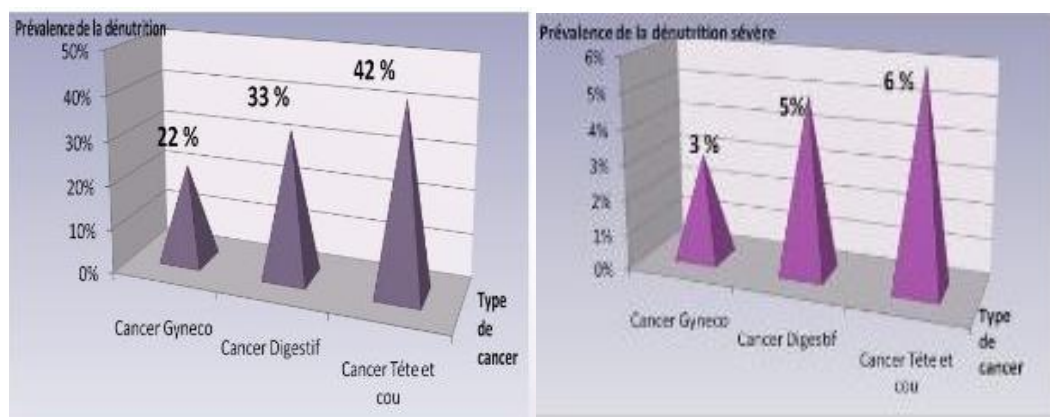
Undernutrition was defined by a BMI < 18.5 and/or weight loss > 5% in one month or 10% in 6 months (HAS criteria).

III. Results :

In total, 250 patients (150 men and 100 women) were included, with age ranges from 18 to 80 years old. Among these patients, 200 were in progress treatment, 22 were followed in consultation Before THE beginning of treatment, and 28 sick in remission After treatment.

In terms of prevalence, 51% of cancer patients were malnourished, including 42% for head and neck cancers, 33% for digestive cancers, and 22% for gynecological cancers. 41% of newly diagnosed patients had a reduction in ingesta (Materials food introduced in the body).

14% were cachectic, with a distribution as follows: 6% for head and neck cancers, 5% for digestive cancers and 3% for the gynecological cancers.



IV. Discussion :

In current practice, the assessment of nutritional status is not yet part of the reflexes of oncologists and little attention is still paid to this, despite the recognized need for adequate nutritional support in cancer patients [3,24]. Some published studies recently demonstrated that even when undernutrition is diagnosed, approximately 50% of patients born are not treated of manner adequate or are not of All treated [12,25]. Using the same combination of criteria based on BMI and percentage of weight loss nthe weather, others studies found an overall prevalence of undernutrition neighboring THE 49.5% for upper digestive tumors [26]. This result was confirmed by an Italian study carried out in 2017 with 1951 patients who used the mini nutritional assessment and demonstrated a prevalence of undernutrition of 40.2 % [22]. That demonstrates that the results can vary according to the criteria or tools used, or other studies have shown an overall prevalence of risk nutritional increased up to 75% for THE same [27]. There is prevalence high of a nutritional risk increased or precachexia also applies to head and neck cancers. In this group, the rate of increased nutritional risk ranging from 28.6% [28] to 67% [29] and malnutrition of the order of 23.8 has 48.9 % have summer demonstrated [12,14,22].

Through this little tour of literature, we can already say that the prevalence of malnutrition in our patients is underestimated. The sample being reduced can only be indicative, and a very limited duration of data collection making it impossible to to follow evolutionIn THE time the nutritional status of patients.

On the other hand, we can also point the finger the lack of awareness among our practitioners and their lack of experience in this area. An investigation carried out by an independent body, under anonymity, showed that more than 90% of doctors, oncologists or radiotherapists questioned did not do no nutritional assessment of their patients. This is added to the absence of a repository national or recommendations for the management of malnutrition in these different stages. A training strategy, based on recommendations from national experts and on results larger, multicenter studies including a much larger number of patients cancer, must be implemented in order to improve the detection and management of malnutritionin our centers.

Until then, the application of the recommendations of international experts as published by Paolo Bossi andal in 2022 (painting 01), would be an alternative to level at these shortages

DOMAIN INTERVENTION	ACTION
RELEVANCE OF INTERVENTIONS OF	Improve there training of the clinicians.
CARE OF HEALTH	Raise awareness among institutional stakeholders and payers of nutritional issues andencourage THE investments for increase THE resources economic And human.
	Inform policy makers of the importance of standardizing access to the ONS For all the patients in order to to improve there relevance and observance therapeutics.
DIAGNOSTIC	Perform nutritional assessments at any stage of the pathwayoncological, with of the followed periodicals And reassessments of the state nutritional.
THERE MANAGEMENT	Institute of the teams multidisciplinary.
	Involve A nutritionist clinic at breast of the multidisciplinary team.
	Identify patients at high risk of malnutrition and take actionfast and appropriate. Put implemented the ERAS®pathway for each cancer patient undergoing an interventionsurgical.

V. Conclusion :

Despite improvements in anticancer therapies, the prevalence of undernutrition remains very high at the house of cancer patients, touching 51% In our series.

Undernutrition is associated with poorer prognosis and impaired outcomes of the treatments such as their surgery or chemotherapy. This observational study draws attention to the importance of including care nutritional in the overall therapeutic strategy in parallel and therefore while the specific treatment of cancer, and therefore to make a systematic screening for malnutrition. By there following, a management strategy charge nutritional must be proposed.

REFERENCES

[1]. Muscaritoli M, Arends J, Bachmann P, Baracos V, Barthelemy N, Bertz H, Et Al. ESPEN Practical Guideline: Clinical Nutrition In Cancer. Clinnutr (2021)40 (5):2898–913. Doi : 10.1016/J.Clnu.2021.02.005
 [2]. Cederholm , T.; Jensen, G.; Correia, M.; Gonzalez, MC; Fukushima, R.; Higashiguchi , T.; Baptista, G.; Barazzoni , R.; Blaauw ,

- R.; Coats, A.; Et Al. Criteria GLIM For THE Diagnostic Of Malnutrition—A Report Of Consensus Of There Global Community Of The Nutrition Clinical. *Clin. Nutr.*2018,38, 1–9 ..
- [3]. Bossi P, Delrio P, Mascheroni A, Zanetti M. The Spectrum Of Malnutrition/ Cachexia / Sarcopenia In Oncology According To Different Cancer Types And Settings: HAS Narrative Review . *Nutrients* (2021) 13:1980. Doi : 10.3390/Nu13061980
- [4]. Mañin Caro MM, Laviano A, Pichard C. Nutritional Intervention And Quality Of Life In Adults Oncology Patients. *Clin Nutr* (2007) 26:289–301. Doi : 10.1016/J.Clnu.2007.01.005
- [5]. Arrieta O, De La Torre-Vallejo M, Ló Pez-Maías D, Orta D, Turcott J, Macedo- Pe´ Rez EO, Et Al. Nutritional Status , Body Surface, And Low Lean Body Mass/Body Mass Index Are Related To Dose Reduction And Severe Gastrointestinal Toxicity Induced By Afatinib In Patients With Non- Small Cell Lung Cancer. *Oncologist* (2015) 20:967–74. Doi : 10.1634/Theoncologist.2015-0058
- [6]. Bozzetti F. Forcing The Vicious Circle : Sarcopenia Increases Toxicity , Decreases Response To Chemotherapy And Worsening With Chemotherapy . *Ann Oncol*(2017) 28:2107–18. Doi : 10.1093/ Announced /Mdx271
- [7]. Saitoh -Maeda Y, Kawahara T, Miyoshi Y, Tsutsumi S, Takamoto D, Shimokihara K, Et Al. A Low Psoas Muscle Volume Correlates With A Longer Hospitalization After Radical Cystectomy . *BMC Urol* (2017) 17:87. Doi : 10.1186/S12894-017-0279-2
- [8]. Löser A, Avanesov M, Thieme A, Gargioni E, Baehr A, Hintelmann K, Et Al. Nutritional Status Impacts Quality Of Life In Head And Neck Cancer Patients Undergoing (Chemo) Radiotherapy : Results From Tea Prospective HEADNUT Trials. *Nutr Cancer* (2022) 74:2887–95. Doi : 10.1080/01635581.2022.2042571
- [9]. Ehrsson YT, Fransson P, Einarsson S. Health-Related Mapping Quality Of Life, Anxiety , And Depression In Patients With Head And Neck Cancer Diagnosed With Malnutrition Defined By GLIM. *Nutrients* (2021) 13:1167. Doi : 10.3390/Nu13041167
- [10]. Tosato M, Marzetti E, Cesari M, Saveria G, Miller RR, Bernabei R, Et Al. Measurement Of Muscle Mass In Sarcopenia : From Imaging To Biochemical Markers. *Aging Clin Expres* (2017) 29:19–27. Doi : 10.1007/S40520-016-0717-0
- [11]. Alvarosanz E, Garrido Siles M, Rey Ferna´ Ndez L, Villatoro Rolda´ N R, Rueda Domínguez A, Abile´ S J. Nutritional Risk And Malnutrition Rates At Diagnosis Of Cancer In Treated Patients In Outpatient Settings: Early Intervention Protocol . *Nutrition* (2019) 57:148–53. Doi : 10.1038/S41598-020-78246-W
- [12]. Hébuterne X, Lemarié´ E, Michallet M, of Montreuil CB, Schneider SM, Goldwasser F. Prevalence of malnutrition and current use of nutrition support in patients with cancer. *J Parenting Enteral Nutr* (2014) 38:196–204. doi : 10.1177/0148607113502674
- [13]. Planas M, HAS lvarez-Herna´ ndez J, Leo n-Sanz M, Celaya- Pe´ ground S, Araujo K, Garia of Lorenzo HAS. Prevalence of hospital malnutrition in cancer patients: HAS subanalysis of tea PREDyCES ® study . *Support Care Cancer* (2016) 24:429–35. doi : 10.3305/nh.2012.27.4.5986
- [14]. Press M, Desne´ S, Berchery D, Nightingale G, Poiree B, Meslier M, And al. Prevalence , risk factors and clinical implications of malnutrition in English comprehensive cancer centers. *Br J Cancer* (2010) 102:966–71. doi : 10.1038/ sj.bjc.6605578
- [15]. Muscaritoli M, Lucia S, Farcomeni A, Lorusso V, Saracino V, Barone VS, And al. PreMiO study group. prevalence of malnutrition in patients at first medical oncology visit : tea PreMiO study . *Oncotarget* (2017) 8:79884–96. doi : 10.18632/ oncotarget.20168
- [16]. Gyan E, Raynard B, Durand JP, Lacau Saint Guily J, Gouy S, Movschin ML, et al. NutriCancer2012 investigator group. malnutrition in patients with cancer: Comparison of perceptions by patients, relatives, and physicians-results of the NutriCancer2012 study . *JPEN J ParenterEnteralNutr* (2018) 42:255–60. doi : 10.1177/0148607116688881
- [17]. Pirlich M, Schütz T, Norman K, Gastell S, Lübke HJ, Bischoff SC, et al. The German hospital malnutrition study . *Clin Nutr* (2006) 25:563–72. doi : 10.1016/ j.clnu.2006.03.005
- [18]. Ravasco P. Nutrition in cancer patients. *J Clin Med* (2019) 8:1211. doi : 10.3390/jcm8081211
- [19]. Fearon K, Strasser F, Anker SD, Bosaeus I, Bruera E, Fainsinger RL, And al. Definition and classification of cancer cachexia : Year international consensus. *Lancet Oncol* (2011) 12:489–95. doi : 10.1016/S1470-2045(10)70218-7
- [20]. Clay J.M., Busquets S, Stemmler B, Lopez-Soriano F.J. Cancer cachexia : Understanding tea molecular basis. *Nat Rev Cancer* (2014) 14:754–62. doi : 10.1038/nrc3829
- [21]. Fukushima H, Nakanishi Y, Kataoka M, Tobisu K, Koga F. Prognosis significance of sarcopenia in patients with metastatic renal cell carcinoma . *J Urol* (2016) 195:26–32. doi : 10.1016/j.juro.2015.08.071
- [22]. Muscaritoli , M.; Arends , J.; Aapro , M. From guidelines to clinical practice: A roadmap for oncologists for nutrition therapy for cancer patients. *Ther . Adv. Med. Oncol .* 2019, 11, 1–14.
- [23]. Kubrak , C.; Martin, L.; Gramlich , L.; Scrimger , R.; Jha, N.; Debenham , B.; Chua , N.; Walker, J.; Baracos , VE Prevalence and prognosis significance of malnutrition in patients with cancers of tea head and neck. *Clin. Nutr .* 2020, 39, 901–909.
- [24]. Caccialanza R, Pedrazzoli P, Cereda E, Gavazzi VS, Pinto VS, Paccagnella HAS, And al. Nutritional support in cancer patients: has position paper from tea Italian society of medical oncology (AIOM) and the Italian society of artificial nutrition and metabolism (SINPE). *J Cancer* (2016) 7:131–5. doi : 10.7150/jca.13818
- [25]. Tobert CM, Mott SL, Nepple KG. Malnutrition diagnosis during adults inpatient hospitalizations : analysis of a multi- institutional collaborative database of academic medical centers. *J Acad Nutr Diet* (2018) 118:125–31. doi : 10.1016/ j.jand.2016.12.019