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Mini Review

Prognostic Value of PRISMA-7 Score for Frail Elderly Patients with Advanced Pancreatic Adenocarcinoma

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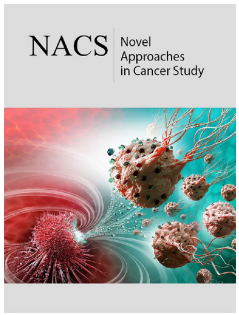
ISSN: 2637-773X



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Submission: February 27, 2020
Published: October 11, 2021

Volume 6 - Issue 3

How to cite this article: Salah Mabrouk Khallaf*, Anwar Tawfik Amin, and Mona M Sayed. Prognostic Value of PRISMA-7 Score for Frail Elderly Patients with Advanced Pancreatic Adenocarcinoma. Nov Appro in Can Study. 6(3). NACS.000638. 2021.
DOI: 10.31031/NACS.2021.06.000638

Abstract

Finding the prognostic factors for this dismal disease is still challenging, especially for elderly patients. Patient age [1,2], performance status [1], blood neutrophil-lymphocyte ratio [3], Plasma Chromogranin A [4], frailty index [5] are documented as prognostic factors for outcome of the patients with advanced pancreatic cancer. Data about elderly patients in these trials is limited. We present our practice regarding the importance of frailty index called PRISMA7 (Program of Research to Integrate the Services for the Maintenance of Autonomy-7) score for prognostic stratification of elderly patients with advanced pancreatic cancer. It was highly significant prognostic factor for those patients.

Keywords: Cancer pancreas; PRIMSA7; Frail; Prognosis

Abbreviations: CGA: Comprehensive Geriatric Assessment; PRISMA-7: Program of Research to Integrate the Services for the Maintenance of Autonomy-; ECOG: Eastern Cooperative Oncology Group; PFS: Progression-Free Survival; OS: Overall Survival

Discussion

Pancreatic cancer is a major health problem worldwide ranking as the 11th most common cancer, and the 7th most common cause of death from cancer worldwide [6]. Its worldwide incidence and mortality increase with increasing age [6]. About two-thirds of patients have the age of more than 65 years [7-9]. The age of 65 years is the cut-off for the definition of the elderly according to the proposal of the World Health Organization [10]. In cancer clinical trials, data about this age group is inadequate as the number of patients of this age group accounts for only 34-40% of enrolled patients [11]. Because of the biophysiological nature of the elderly patients, age and performance status are not preferred for clinical judgment and clinical studies1 [12,13]. Alternatively, a Comprehensive Geriatric Assessment (CGA) is used as a reliable prognostic factor for survivals [14]. It also a good predictive model for chemotherapy toxicity [14]. The clinical application of CGA is restricted by its time and resource-consumption [8]. So, many CGA-based frailty indices have emerged for clinical application [15].

Among these indices, the PRISMA-7 (Program of Research to Integrate the Services for the Maintenance of Autonomy-7) scale is an applicable, valid, and reliable tool for research and clinical practice [15]. PRISMA-7 is self-reported scale and contains seven items of 'yes/no' answer: older than 85 years; male; health problems which limit activities; support of another person needed on a regular basis; health problems requiring staying at home; social support; and use of a stick/walker/wheelchair [16]. Each item is scored with one point for a 'yes" answer, with a total score ≥3 indicates frailty [16]. In our practice, we conducted a

trial is to evaluate the prognostic factors of metastatic pancreatic adenocarcinoma in the frail elderly patients treated with gemcitabine in a standard dose. The eligibility criteria were the evidence of the diagnosis of metastatic pancreatic adenocarcinoma, both sexes, age of 65 years or older, PRISMA-7 score ≥ 3 points, an Eastern Cooperative Oncology Group (ECOG) performance status 2, chemotherapy-naïve, and adequate hematologic, hepatic, and renal functions. Also, palliative radiotherapy for distant metastasis was allowed if indicated.

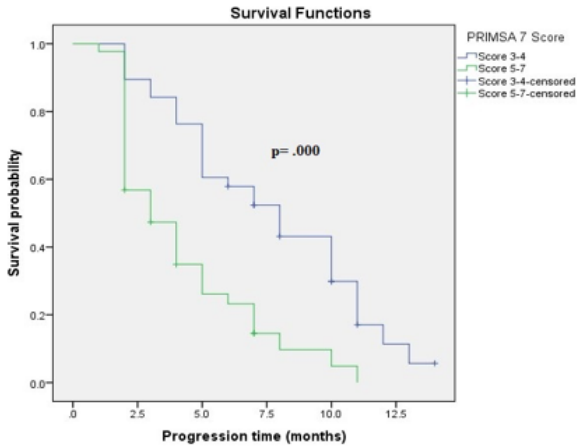

Figure 1: Kaplan-Meier plot progression-free survival according to PRISMA7 score.

During the study period from May 2016 to September 2019, eighty-two patients out of the assessed patients were finally analyzed for study endpoints. We subclassified the frail patients according to the PRISMA7 score. A total of score of 3 or 4 was considered mildly frailty, while the moderately to severely frail patients had a total score of 5-7. We found that the patients having high PRISMA7 score (moderately to severely frail patients) had a worse Progression-Free Survival (PFS) than those with low score i.e., mildly frail patients) (median PFS: 3.00 months, 95% CI 1.64-4.35 versus 8.00 months, 95% CI 5.80-10.19, respectively; p= .000) (Figure 1).

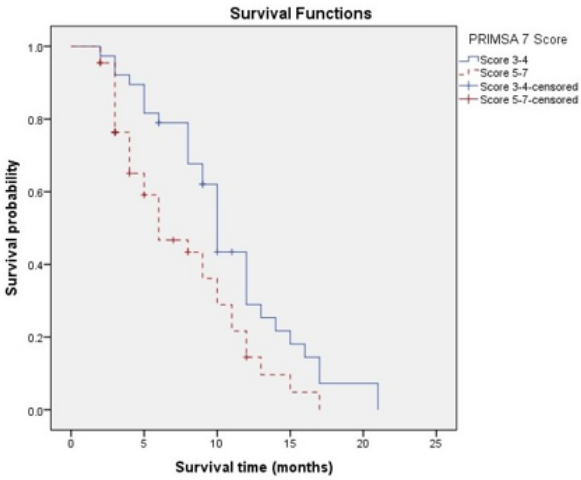

Figure 2: Kaplan-Meier plot overall survival according to PRISMA7 score.

Also, Overall Survival (OS) was markedly reduced in moderately to severely frail patients when compared to mildly frail patients (median OS: 6.00 months, 95% CI 2.87-9.12 for patients with PRISMA7 score 3-4 versus 10.00 months, 95% CI 9.10-10.89 for those with PRISMA7 score 5-7; p= .012) (Figure 2).

Conclusion

In our opinion, PRIMSA7 score should be used instead of Performance Status (PS) for making a decision of active treatment in frail patients with pancreatic cancer. This is because of, firstly, the difficulty of assessing PS in these patients, secondly, the highly significant results regarding the prognostic value of PRISMA7 score in those patients.

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