Optimising radioligand therapy for patients with gastro-entero-pancreatic neuroendocrine tumours: expert opinion from an Italian multidisciplinary group

Electronic Supplementary Material

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SURVEY RESULTS

The survey was administered to 90 clinicians involved in the multidisciplinary management of patients with gastro-entero-pancreatic neuroendocrine tumours (GEP-NETs) in Italy in May 2021. The survey results demonstrated that:

- Evaluation of disease progression needs to be optimised in the context of the patient journey;
- Time to progression (from previous therapy) is considered a key driver for the definition of new treatment; therefore, the proper and timely definition of disease progression is essential; and
- Computerised tomography (CT)/positron emission tomography (PET) or single-photon emission computerised tomography (SPECT) are primarily used during disease staging for radioligand therapy (RLT). Few clinicians prefer to use these imaging techniques to evaluate and characterise progression (**Figure 1**).

ROUND TABLE DISCUSSIONS

Challenges related to RLT are not limited to the assessment of disease progression from baseline to define the most appropriate therapy and timely treatment. Other elements regarding the assessment of progression after treatment were discussed, including:

- The most appropriate imaging technique to define progression;
- Defining the proper time to evaluate progression; and
- Clarifying whether it is better to define progression during RLT administration or at the end of the therapy cycles.

The discussions revealed the following clinical messages:

- RLT is indicated in patients with grade 1–2 GEP-NETs, with a positive ^{68}Gallium-PET and in progression following somatostatin analogue therapy;
- Baseline progression on RLT should be read in a broad clinical sense; and
- The strategy to monitor RLT tumour response must be defined based on the morphological and functional characteristics of the tumour, its degree of malignancy and the general clinic.

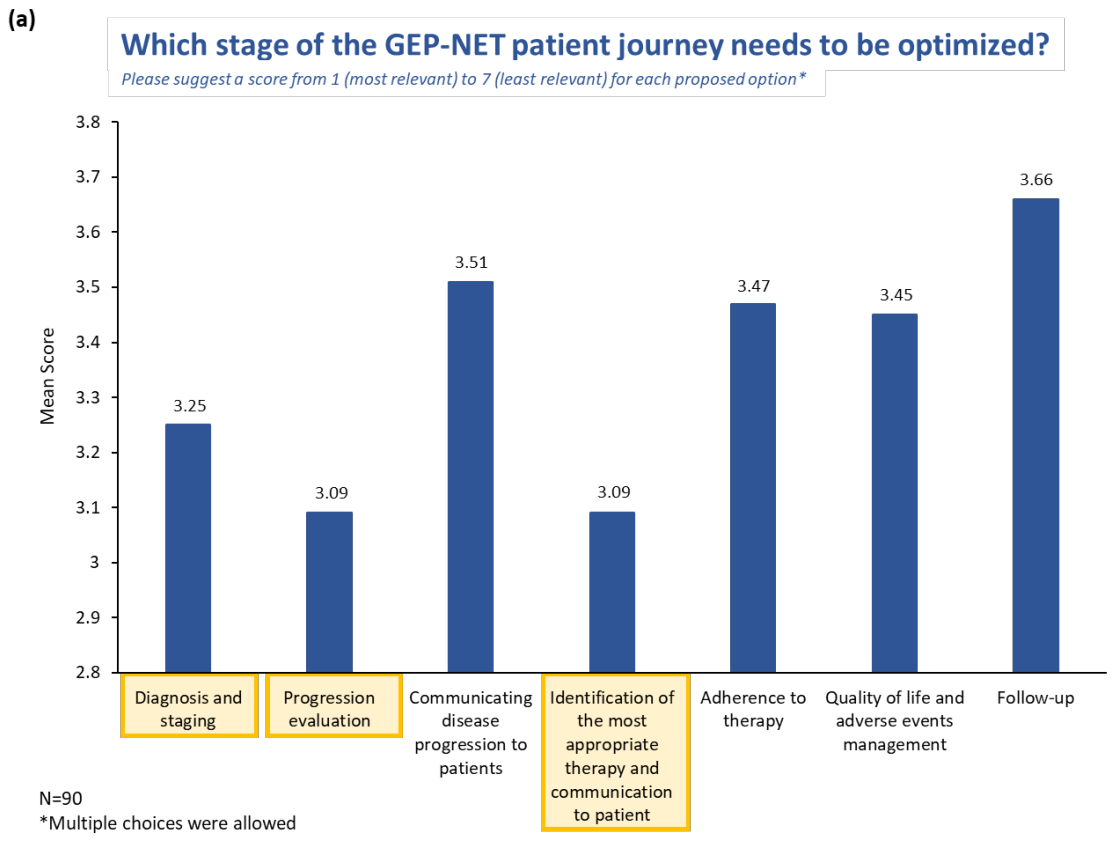
The following needs were identified:

- The patient evaluation should include, in addition to Ki67, analysis of the receptor profile, the history of comorbidities and previous treatments, as well as fluorodeoxyglucose-PET and genetic profiling in selected patients;
- Definition of standardized diagnostic and therapeutic pathways; and
- Improved cooperation between hub and spoke centres by providing smaller centres with specific indications on how to characterize the patient, the disease and treatment.

SUPPLEMENTARY FIGURE

Supplementary Figure 1. Key survey results, with responses to the following questions (a) Which stage of the GEP-NET patient journey needs to be optimised? (b) Which criteria drive therapeutic choices in GEP-NET patients? (c) What are the major complexities related to RL treatment in GEP-NET patients? And (d) When, in the case of RL therapy, does PET/CT or SPECT execution become important?

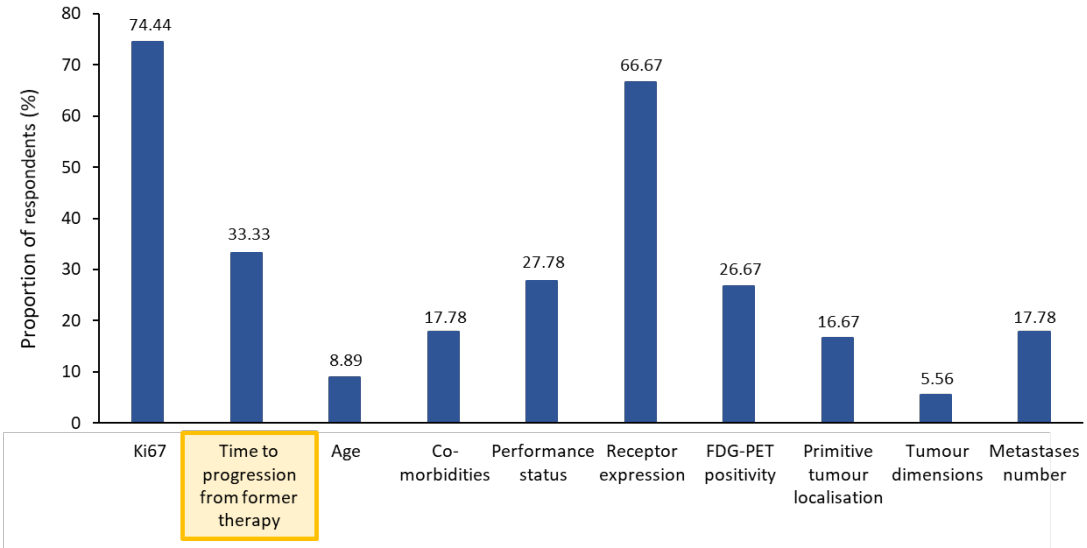
CT computed tomography, *FDG* fluorodeoxyglucose, *GEP-NET* gastro-entero-pancreatic neuroendocrine tumours, *PET* positron emission tomography, *RL* radioligand, *RLT* radioligand therapy, *SPECT* single-photon emission computed tomography.



(b)

Which criteria drive therapeutic choices in GEP-NET patients?

*Please suggest up to three answer options**

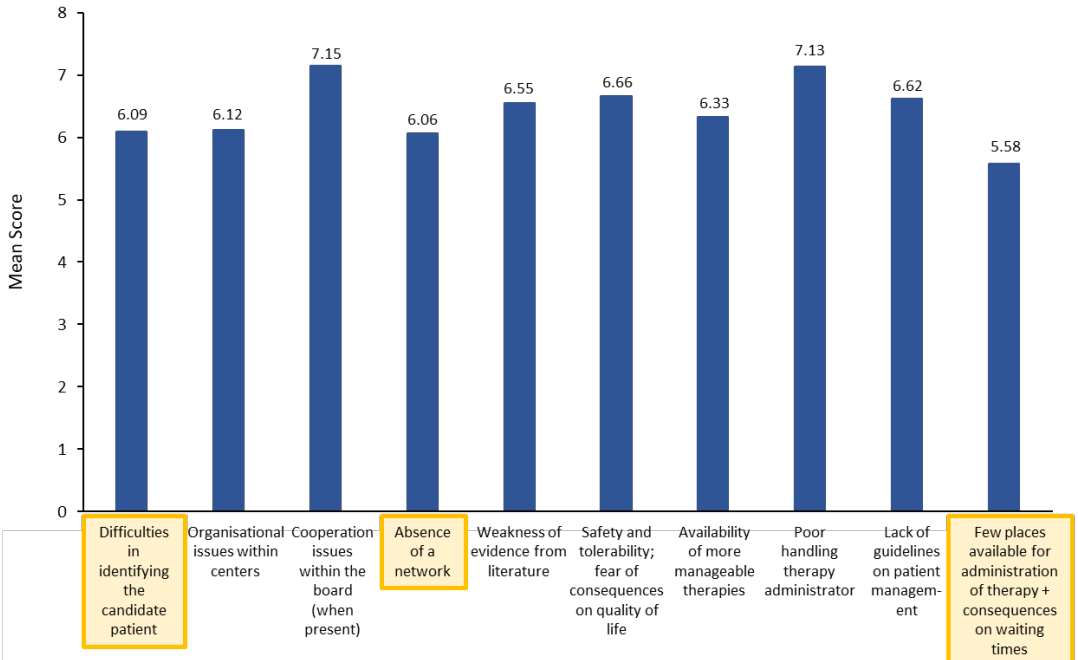


N=90
*Multiple choices were allowed

(c)

What are the major complexities related to RLT in GEP-NET patients?

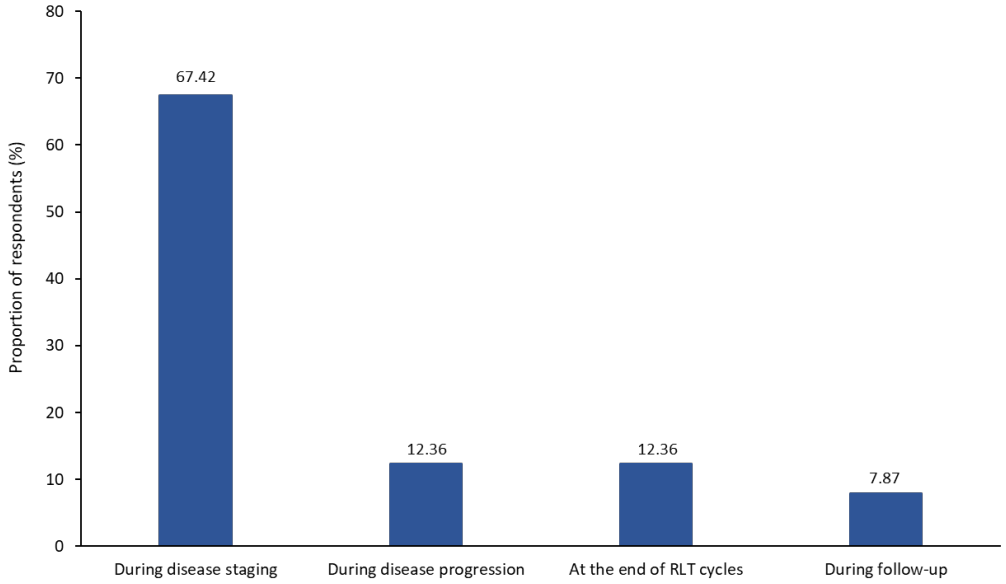
*Please suggest a score from 1 (most relevant) to 11 (least relevant) for each proposed option**



N=90
*Multiple choices were allowed

(d)

When, in the case of RLT, does PET/CT or SPECT execution become important?*



N=90
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