

COMPILATION AND APPLICATION OF QUALITY OF LIFE (QoL) QUESTIONNAIRES: THE NETS' PATIENTS PARADIGM

**S.D. Rallis, A.P. Stefanoyiannis, A. Georgakopoulos, E. Alevroudis,
X. Geronikola-Trapali, I. Armeniakos, S.N. Chatziioannou**

**University General Hospital of Athens
'Attikon', Athens, Greece**

Presentation Outline

- ❖ Neuroendocrine tumors (NETs)
- ❖ NETs - Treatment procedure
- ❖ Patients' Quality of Life (QoL)
- ❖ QoL questionnaires
- ❖ Applications of QoL questionnaires
- ❖ Discussion and future

Introduction: NeuroEndocrine Tumors (NETs)

- ❖ What: A rare class of neoplasms
- ❖ Where: They appear in many organs (gastroenteropancreatic system, lungs and more commonly in small intestine)
- ❖ Function: Their main function is the release of hormones as a counteraction to signs coming from the nervous system

NETs: Why they are important?

- ❖ Rising rate of appearance: NETs affect 2.5 to 5 of 100.000 humans annually
- ❖ Low proliferation rate: That leads to a late diagnosis. When this happens, patient has already expressed metastatic burden, something that eventually may lead to a bad prognosis

NETs' Clinical Treatment

- ❖ Multidisciplinary cooperation: Including radiotherapists, medical physicists, technologists etc.
- ❖ Various therapeutic regimens: Many therapeutic regimens can be used to deal with NETs, including oncology, operative treatment, chemo-embolization and radio-embolization, chemo-taxis, radiotherapy and Peptide Receptor Radionuclide Therapy (PRRT)

- **NETs' PRRT Treatment**

- ❖ NETs overexpress somatostatin receptors (SSTRs) on their cell surface
- ❖ This overexpression can be used to localize and finally target them

NETs PRRT Regimens

- ❖ Synthetic somatostatin analogue (octreotide)
 - Expresses high affinity with somatostatins
 - Binds on the NETs' SSTRs
 - Causes anti-proliferative effects to the cancerous cells
- ❖ Radiolabeled somatostatin analogue
(Tyr3-octreotide or Tyr3-octreotate)
The radionuclides labeled in the analogue are ^{177}Lu and ^{90}Y

Optimization of patients' monitoring during therapy

- ❖ Recording of patients' imaging and clinical data during the different stages of therapy
- ❖ But how can we have optimal results in monitoring the patient's treatment course????

Patients' Quality of Life (QoL)

- ❖ In oncology diseases patients' response to a treatment plan doesn't necessarily mean a pleasant and well accepted therapy
- ❖ Consequently the recording of his/her Quality of Life - QoL is important

QoL Questionnaires

- ❖ Quantification of a patient's health quality of life
- ❖ Generic or disease related
(via added modules referring to this particular disease)
- ❖ Results on general or individual level

QoL Questionnaires' optimal structure (1/2)

- ❖ Validity: The chosen instrument measures what it claims to measure
- ❖ Coverage: Covers the QoL components that are important in a specific clinical situation
- ❖ Reliability: Yields consistent values on repeated assessments under constant QoL conditions
- ❖ Responsiveness-sensitivity: Can catch true changes in QoL i.e. changes relevant for the subject involved

QoL questionnaires' optimal structure (2/2)

- ❖ On a clinical level QoL questionnaires should have the following characteristics
 - Simple language
 - Short duration so as to be easily tolerated from patients
 - Scaled level answers
 - Certified from qualified organizations

Applications of QoL questionnaires

- ❖ 2018: Martini et al
 - Monitoring gastroenteropancreatic -GEP- patients with the use of QoL questionnaires
 - Comparison with a sample from general population
 - Validation of PRRT therapy (with ^{177}Lu) on the patients under monitoring
 - **Questionnaire used: EORTC QLQ-C30**

Applications of QoL questionnaires (Martini et al, 2018)

- ❖ Sample: 61 patients with GEP-NETs, 37 of small intestine NETs and 24 of pancreatic NETs
- ❖ Comparative sample: People belonging to general population (GP) with same characteristics (racial and physical) as the patients

Table 1: PRRT Therapy scheme

Therapy type	Treatment cycles
PRRT - Lu-177 DOTATATE - Y-90 DOTATOC)	4 administrations, Interim: 10-12 w Total therapy duration 30-36 w

Applications of QoL questionnaires (Martini et al, 2018) -Results

❖ Lower patients' scores (comparing to the GP ones)
in the following domains:

- Physical, social and role functioning
- Diarrhea
- Appetite loss
- Fatigue

❖ Improving patients' scores (approaching the GP ones)
during the therapeutic course in the following domains:

- Diarrhea -Basic symptom in the small intestine NETs cases-
- Appetite loss

Applications of QoL questionnaires (Martini et al, 2018) -Results

❖ Racial difference

- **Higher baseline scores for women in the appetite loss domain than men and GP, which improved significantly at the 2nd cycle and approach the latter**

❖ Radionuclide difference:

- **Patients treated with ^{90}Y reported lower health related QoL on a range of domains than those treated with ^{177}Lu**
- **Improvement in the social functioning domain, reaching -at first restaging- similar scores to that of ^{177}Lu patients**

Applications of QoL questionnaires

- ❖ 2018:Strosberg et al
 - Monitoring QoL of patients with midgut NETs with the use of questionnaires
 - Comparison of two PRRT therapeutic regimens
 - **Questionnaire used:** EORTC QLQ-C30 plus EORTC GINET21 Module

Applications of QoL questionnaires (Strosberg et al, 2018)

- ❖ Sample: 231 patients with midgut NETs
- ❖ Sample comparison
 - 117 patients treated with PRRT
 - 114 patients treated with PRRT + octreotide (1 to 1 comparison)

Table 2: PRRT Therapies scheme

Therapy type	Dose	Treatment cycles
PRRT (¹⁷⁷Lu DOTATATE) + octreotide	200mCi Lu + 30 mg Octreotide	4 administrations Interim: 8 w Total therapy duration 32 w
PRRT (¹⁷⁷Lu DOTATATE)	60 mg	8 administrations Interim: 4w Total therapy duration 32w

Applications of QoL questionnaires (Strosberg et al, 2018) -Results

- ❖ Patients treated with combined therapy (PRRT + Octreotide) resulted in **improved scores** than patients treated only by octreotide in the following domains:
 - **Global health**
 - **Physical, role functioning**
 - **Diarrhea**
 - **Pain**
 - **Fatigue**
 - **Body image perception**
 - **Disease related worries**

Applications of QoL questionnaires (Strosberg et al, 2018) -Results

- ❖ Most importantly, patients treated with **PRRT/octreotide** combination, reported **significant and sustained improvements in their GLOBAL HEALTH**
- ❖ These data **validate the overall benefit of ^{177}Lu -DOTATATE** in this patient population

Discussion

- ❖ **Patients' voice** incorporation via QoL questionnaires
- ❖ QoL questionnaires have become an **important tool for assessment and monitoring** of therapeutic regimens in NETs' patients as well as in other types of cancers and/or diseases
- ❖ **Individualize** a specific patient's treatment regimen

Future?...

- ❖ **Enrichment** of QoL questionnaires with questions of greater variability for medical use
- ❖ Use **beyond clinical practice** (pharmaceutical companies, statistical studies)
- ❖ Flexible nature -> **Online data** easily interpreted and studied

Thank you kindly for your attention...

E-mail: asapas@hotmail.com