



Validation of the Brain Module (EORTC QLQ-BN20) in Patients with Brain Metastases

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EORTC QOL Group Meeting
Belfast, Ireland
November 22 and 23, 2007



Brain Metastases

- 20-40% of cancer patients will develop brain metastases.
- Few brain metastases trials have employed QOL as an endpoint.
- Brain metastases specific QOL instruments are lacking.



Literature Review

- A total of 23 instruments were identified
 - **8 assessed QOL**
 - 7 assessed neurocognitive function
 - 6 assessed performance status
 - 3 assessed neurological function



Table 1: Frequency of Instruments Used in Clinical Trials Measuring QOL in Brain Metastasis Patients

Instrument	Frequency
Kamofsky Performance Score (KPS)	22
Neurological function classification	15
ECOG (WHO) performance scores	7
Study-designed performance instrument	4
Mini Mental Status Examination (MMSE)	3
General Performance Status (GPS)	3
Study-designed QOL assessment	2
Barthel index of activity of daily living	2
Hopkins Verbal Learning Test (HVLT)	2
Controlled Oral Word Association test (COWA)	2
Trailmaking A and B	2
Functional Assessment of Cancer Therapy general questionnaire (FACT-G) and validated brain subscale (FACT-Br)	2
European Organization for Research and Treatment of Cancer (EORTC QLQ-C30) and brain module (BN20)	1
Functional Assessment of Cancer Therapy general questionnaire (FACT-G)	1
Edmonton Symptom Assessment Scale (ESAS)	1
Spitzer's quality of life (QL) index	1
Study-designed neurological instrument	1
Order classification	1
Profile of Mood States-short form (POMS-SF)	1
Zubrod performance status	1
Ruff 2 and 7	1
Grooved Pegboard	1
Mini Mental State Inventory (MMSI) [modified abbreviated version]	1
TOTAL	77



Literature Review

Cochrane Review (2006)

- Tsao *et al* identified only a single trial in which QOL was an endpoint.
 - Mehta (2003) employed the FACT-Br
- Recommendations: QOL is important and should be included as an endpoint in future trials.



FACT-Br

- Used with the FACT-G
- QOL assessment tool for pts with primary brain tumors
- Validated in 101 pts with primary brain tumors
 - Mean age 41.2 years (range 18-75)
 - Most pts (91/101) had surgery
 - Most pts (84/101) were receiving adjuvant chemo- or radiation therapy
- Has not been **validated** in brain metastases pts



EORTC QLQ-BN20

- Used with the EORTC QLQ-C30
- QOL assessment tool for pts with primary brain tumors
- Validated in 105 pts with primary brain tumors
 - Mean age 41 years (range 18-75)
 - 41/105 were recently diagnosed
 - 64/105 had a recurrence following surgery and radiation or chemotherapy
- Has not been **validated** in brain metastases pts
- Gerrard *et al* (2003)
 - Pts struggled to complete the 50-item questionnaire
 - Poor compliance and study termination as a result



EORTC QLQ-BN20



EORTC QLQ - BN20

Patients sometimes report that they have the following symptoms. Please indicate the extent to which you have experienced these symptoms or problems during the past week.

During the past week:	Not at All	A Little	Quite a Bit	Very Much
31. Did you feel uncertain about the future?	1	2	3	4
32. Did you feel you had setbacks in your condition?	1	2	3	4
33. Were you concerned about disruption of family life?	1	2	3	4
34. Did you have headaches?	1	2	3	4
35. Did your outlook on the future worsen?	1	2	3	4
36. Did you have double vision?	1	2	3	4
37. Was your vision blurred?	1	2	3	4
38. Did you have difficulty reading because of your vision?	1	2	3	4
39. Did you have seizures?	1	2	3	4



EORTC QLQ-BN20

40.	Did you have weakness on one side of your body?	1	2	3	4
41.	Did you have trouble finding the right words to express yourself?	1	2	3	4
42.	Did you have difficulty speaking?	1	2	3	4
43.	Did you have trouble communicating your thoughts?	1	2	3	4
44.	Did you feel drowsy during the daytime?	1	2	3	4
45.	Did you have trouble with your coordination?	1	2	3	4
46.	Did hair loss bother you?	1	2	3	4
47.	Did itching of your skin bother you?	1	2	3	4
48.	Did you have weakness of both legs?	1	2	3	4
49.	Did you feel unsteady on your feet?	1	2	3	4
50.	Did you have trouble controlling your bladder?	1	2	3	4



However...

- There are three trials that have used the FACT-Br and BN20 to assess QOL in brain metastases pts.
 - These questionnaires were developed for pts with primary brain tumors.
 - Therefore, are the items relevant for patients with brain metastases?



Primary Tumors vs. Brain Metastases



Similarities

1. Neurologic signs and symptoms (physical well-being)
2. Neurocognitive sequelae
3. Fatigue
4. Impact on social interaction (social/family/emotional well-being)
5. Impact on activities of daily living
6. Side-effects from chronic steroid (dexamethasone) use



Differences

- Brain metastases pts may also present with bone/visceral metastases, and hence bone pain/systemic symptoms. This is seldom seen in pts with primary brain tumors.
- Presentation:
 - Brain metastases pts may have systemic symptoms: cachexia, poor appetite
- Treatment:
 - Brain metastases: typically 5-10 radiation treatments except in pts with a solitary metastasis and good PS/controlled extracranial disease
 - Primary brain tumors: up to 6 weeks of radiation treatment often with surgical resection and adjuvant chemotherapy
- Prognosis:
 - Similar for high grade malignant primary brain tumors
 - Patients with low grade primary tumors may live longer



Therefore...

- There is a need to **validate** these instruments in patients with brain metastases before application as QOL tools.
- The question is...
 - Do we validate the EORTC QLQ-BN20 *or* FACT-Br?



Proposal

- FACT-G + FACT-Br = 53 items
- EORTC QLQ-C30 + EORTC QLQ-BN20 = 50 items
- However,
 - The C30 has been shortened to produce the EORTC QLQ-C15-PAL
 - Validated among 41 patients and 66 health care professionals in 6 countries



EORTC QLQ-C15-PAL



EORTC QLQ-C15-PAL (version 1)

We are interested in some things about you and your health. Please answer all of the questions yourself by circling the number that best applies to you. There are no "right" or "wrong" answers. The information that you provide will remain strictly confidential.

	Not at All	A Little	Quite a Bit	Very Much
1. Do you have any trouble taking a <u>short</u> walk outside of the house?	1	2	3	4
2. Do you need to stay in bed or a chair during the day?	1	2	3	4
3. Do you need help with eating, dressing, washing yourself or using the toilet?	1	2	3	4
During the past week:				
	Not at All	A Little	Quite a Bit	Very Much
4. Were you short of breath?	1	2	3	4
5. Have you had pain?	1	2	3	4
6. Have you had trouble sleeping?	1	2	3	4
7. Have you felt weak?	1	2	3	4
8. Have you lacked appetite?	1	2	3	4
9. Have you felt nauseated?	1	2	3	4



EORTC QLQ-C15-PAL

During the past week:	Not at All	A Little	Quite a Bit	Very Much
10. Have you been constipated?	1	2	3	4
11. Were you tired?	1	2	3	4
12. Did pain interfere with your daily activities?	1	2	3	4
13. Did you feel tense?	1	2	3	4
14. Did you feel depressed?	1	2	3	4

For the following question please circle the number between 1 and 7 that best applies to you

15. How would you rate your overall quality of life during the past week?

1 2 3 4 5 6 7

Very poor

Excellent



Objective

- We propose the validation of the BN20 and C15-PAL (35 items versus 50 or 53 items) to assess QOL in patients with brain metastases in future trials.



Methods

Content Validation of the BN20 will be conducted according to the EORTC Quality of Life Group Guidelines

The Structured Interview:

- Directed to each module item of the BN20 separately
 - the particular experience to which the item refers
 - the wording of the item itself
- 2 questions directed to the entire questionnaire
 - Were there questions that you found irrelevant?
 - Can you think of additional issues that are relevant for you, but are not included in this questionnaire?



Methods

15. *I see that you **have had** trouble with your coordination during the past week. (2-4)*

Is this correct?
Can you tell me about this problem?
Do you have any idea if that had something to do with brain metastases or its treatment?
Did you have any difficulty in replying to this question?
Did you find this question annoying/confusing/upsetting?
How would you have asked this question?

*I see that you **have not** had trouble with your coordination during the past week. (1)*

Is this correct?
Have you ever experienced this problem before last week?
If yes, do you have any idea if that had something to do with brain metastases or its treatment?
If yes, can you tell me about this problem?
Did you have difficulty in replying to this question?
Did you find this question annoying/confusing/upsetting?
How would you have asked this question?



Methods

Completion of the interview with: Questions directed EORTC QLQ-PAL15 and EORTC QLQ-BN20 ^{Pt ID: _____}

Were there questions that you found irrelevant?
Can you think of additional issues that are relevant for you but not included in this questionnaire?
Were there questions that you found confusing?
Were there questions that you found upsetting?
Were there questions that you found intrusive?
Do you have other comments about these questions?

Overall module questions if patient is **too tired to answer** for each individual item

Were there question that you found difficult to answer?
Were there questions that you found annoying?
Were there questions that you found confusing?
Were there questions that you found upsetting?
Were there questions that you found intrusive?
Do you have other comments about these questions?



Shortcomings

- Two cognitive items (Q20 and Q25) were deleted when the C15-PAL was developed

During the past week:

	Not at All	A Little	Quite a Bit	Very Much
20. Have you had difficulty in concentrating on things, like reading a newspaper or watching television?	1	2	3	4
25. Have you had difficulty remembering things?	1	2	3	4

- These issues may be relevant for brain metastases patients.
- Therefore, these items may need to be introduced into the Brain Metastases Module if they are found relevant in the patient and health care professional interviews.



Collaboration

- We plan to attend the semi-annual EORTC QOL meetings to present the results and for input with regards to modification of the BN20 based on the findings.
- The revised Brain Metastases Module from the consensus will then be subjected to international validation especially in non-English speaking countries as per the EORTC QOL guidelines.



Thank-you!

Comments or suggestions?

Please contact us if you are interested in participating

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