Integration of Palliative and Oncology Care in patients with lung and other thoracic cancer: referral criteria and clinical care pathways.

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Background

• Early integration of palliative care in oncology may have a positive impact on patients’ quality of life, quality of care and costs.  
  Kaasa et at. Lancet Oncol 2018

• Implementation of universal referral since diagnosis is not efficient nor feasible, given the scarce institutional resources.
Referral criteria

- An international panel recently identified 11 major criteria on when patients should be referred, which may inform how we can standardize the referral process.  
  
  Hui et al. Lancet Oncol 2016

- There is no consensus on outpatient referral criteria
Study rationale

Here we present real world data on the collaboration between the Palliative Care Outpatient clinic (PCO) and Thoracic Medical Oncology outpatient Clinic (TMOC) in a tertiary cancer centre in Italy (NCI-Milano)
Study aim

The aims of this study were:

- to describe timing and factors associated to PCO referral by the oncologist.
- to describe the subsequent clinical care pathway of these patients.
Study design and patient population

• Observational retrospective study

• Patients with thoracic cancer seen at Thoracic Medical Oncology outpatient Clinic between 01.01 to 12.31.2014

• Patients undergoing a single consultation or follow-up visit were excluded.

• The care pathway of included patients was followed-up until 12.31.2015 or till death.
Palliative care at NCI

The PC program includes
- access to palliative care outpatient clinic (PCO),
- inpatient palliative care consult service
- inpatient palliative care beds (hospital hospice unit)
- home care outreach team operated by the hospital PC team.

- multidisciplinary palliative care team (physician, nurse, psychologist)
- follow-up and referral to palliative care inpatient or home care when needed.
Palliative and oncology care integration

• Direct communication between oncology and palliative care team is frequent and multidisciplinary visits can be arranged to discuss and plan treatment together.

• The administration of antineoplastic treatment is available during the simultaneous care period.

• The program also includes elements of training for oncologists and oncology fellows in PC.
Data collection

• Eligibility screening and clinical data collection were performed from electronic patient records (EPR) using an ad hoc report form.

• Data collection from EPR was standardized through a common assessment of the first 20 cases by three reviewers (SLD, MV and EZ); thereafter only doubtful cases were assessed by all the reviewers.

• End of life data for patient enrolled in PCO and who died within study follow-up period were collected from EPR or clinicians.
Statistical Analysis

Time interval to PCO referral was analyzed using univariable and multivariable Cox proportional hazard models, to study the effect of the following potential baseline predictors: age, sex, ECOG performance status, disease stage, brain metastasis, presence of symptoms (pain, cough, dyspnoea, asthenia, appetite loss and hemorrhagia).
Results

A total of 718 patients were seen at the TMOC in 2014
- 212 were excluded because they only had a single consultation
- 277 because already on follow-up.

229 patients were eligible for the study.
Sample characteristics

- 62% were male
- 94% had 0 or 1 ECOG performance status
- 78% were affected by NSCL cancer
- 64% had metastatic disease
- 41% were undergoing chemotherapy
Prevalence of symptoms at first TMOC visit
PCO referral

98 of 229 eligible patients were referred to the POC with (43%; 95% CI 36%-49%)
With a median referral time of 30 days (IQR 4-188 days).
Reasons for referral to PCO as reported in the EMR (N=98)

<table>
<thead>
<tr>
<th>Management of:</th>
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<tbody>
<tr>
<td>Pain</td>
<td>71</td>
</tr>
<tr>
<td>Asthenia</td>
<td>33</td>
</tr>
<tr>
<td>Dyspnea</td>
<td>23</td>
</tr>
<tr>
<td>Cough</td>
<td>22</td>
</tr>
<tr>
<td>Management at least one symptom</td>
<td>90</td>
</tr>
<tr>
<td>Performance Status Deterioration</td>
<td>20</td>
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<tr>
<td>Bone metastases treatment</td>
<td>20</td>
</tr>
<tr>
<td>Brain metastases</td>
<td>10</td>
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<tr>
<td>Pleural effusion</td>
<td>2</td>
</tr>
</tbody>
</table>
Clinical care pathway of the 229 patients

1. TMOC 1st visit
   - A. PCO Referral (N=98) Med: 30 IQR (4-188)
   - C. Death with end of life PC - no previous PCO referral (N=27) Med: 190 IQR (84-308)
   - D. Referral to other cancer center (N=30) Med: 266 IQR (145-368)
   - E. TMOC only (N=63) Med: 428 IQR (335-560)
Factors associated to POC referral

Time to event analysis showed that the hazard ratio of being referred to POC was significantly higher for patients:
with a deteriorated performance status
with more advanced disease stage
With at least one symptom
Presence of pain

![Graph showing the percentage of days with and without pain over time. The graph compares the percentage of days with no pain (green line) and with pain (red line). The percentage decreases over time, with the red line indicating a higher percentage of days with pain compared to the green line for each time point.](chart.png)
Presence of cough
Clinical care pathways of the 98 patients referred to PCO

- They received a median of 5 visits (range 2-11) with a median follow-up frequency of 1 visit every 9 days (range 4-20).
- 80 pts received anticancer therapy and PC simultaneously for variable periods of time (median 128 days, range 46-237).
End of life outcomes

On Dec. 31, 2015
   25 patients were still alive,
   65 had died and
   8 patients were lost at follow up.

Among the 65 patients died within the follow-up period we assessed the following EOL outcomes:
Chemotherapy administration in the last 30 days

- Yes: 14%
- No: 86%
Hospital admission in the last 30 days

- Yes: 29%
- No: 71%
Admission to hospice or home care service

- No admission: 28%
- Admission > 3 days before death: 64%
- Admission ≤ 3 days before death: 8%
Place of death

- Hospice: 35%
- Hospital: 29%
- Home with Home Care Services: 26%
- Home without Home Care Services: 5%
- Missing: 5%
Discussion

• 43% of patients followed by an oncology team were referred to PCO within a median on 30 days from first visit

• Continuity of care and use of resources compare favourably with other experiences and clinical trials on early PC
Discussion

• Referral criteria may contribute in improving physician lead referral process

• A «minimum» set of referral is to be developed and tested in prospective studies as first step to develop better care pathways
Thank you for your attention

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