**NSCLC, locally advanced**

**1216P EFFICACY OF PET-CT IN EVALUATION OF RESPONSE IN LOCALLY ADVANCED NON-SMALL CELL LUNG CANCER**

S. Roy1, S. Pathy1, R. Kumar2, B.K. Mohanti1, V. Raina3, A. Jaiswal4, A. Malhotra2, S. Thulkar5, A. Mohan6, S. Mathur7, D. Behera8

1Radiotherapy, All India Institute of Medical Sciences, New Delhi, INDIA
2Nuclear Medicine, All India Institute of Medical Sciences, New Delhi, INDIA
3Dept. of Medical Oncology, All India Institute of Medical Sciences, New Delhi, INDIA
4Pulmonology, LRS Institute of Tuberculosis and Respiratory Diseases, New Delhi, INDIA
5Radiology, All India Institute of Medical Sciences, New Delhi, INDIA
6Pulmonology, All India Institute of Medical Sciences, New Delhi, INDIA
7Pathology, All India Institute of Medical Sciences, New Delhi, INDIA
8Pulmonary Medicine, LRS Institute of TB and Respiratory Diseases, New Delhi, INDIA

**Aim:** Computed tomography (CT) scan, despite its limitation of imaging sequence, is the standard tool for response assessment following chemo-radiation in locally advanced non-small cell lung cancer (LA-NSCLC). Molecular imaging can characterise the temporal nature of biological activity of a tumour. Thus PET (positron emission tomography)-based response evaluation may be useful and provide information for the planning of an optimal therapeutic strategy. This study aimed to assess the role of 18F-fluorodeoxyglucose PET-CT (18-FDG PET-CT) in response assessment of patients with LA-NSCLC and in evaluating the predictive value of metabolic response for progression-free survival (PFS) and overall survival (OS).

**Methods:** Between January 2012 and July 2013, 30 patients with LA-NSCLC fulfilling the inclusion criteria were enrolled in this randomized controlled study. All of them were randomly allocated to one of the two treatment arms. Arm A received two cycles of neoadjuvant chemotherapy (NACT) (paclitaxel 200mg/m² and carboplatin AUC 5) followed by (f/b) external radiotherapy (XRT) (60Gy/30fractions/6weeks) while arm B received the same NACT regimen f/b XRT (48Gy/20fractions/4weeks), with concurrent chemotherapy (cisplatin 30mg/m²weekly). 18-FDG PET-CT was carried out for all patients before treatment and repeated 6 weeks after completion of treatment. SUVm (maximum standard uptake value) was noted from both the baseline and post-treatment scans. Patients with reduction of SUVm of > 50% were considered to be metabolic responders (MR) while ≤ 50% were considered to be non-responders (MNR). Median follow up duration was 9 months.

**Results:** The median pre- and post- treatment SUVm were 14.4, 6.24, 15.3 and 3.5 for arm A and arm B, respectively. No statistically significant difference was found in the 1-year estimated OS and PFS rate of MR vs. MNR group though they were numerically superior in the MR-subset.

**Table: 1216P**

<table>
<thead>
<tr>
<th>Parameters at 1 year</th>
<th>MR</th>
<th>MNR</th>
<th>Hazard ratio</th>
<th>95% Confidence interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>PFS</td>
<td>57.14%</td>
<td>42.86%</td>
<td>2.04</td>
<td>0.54-7.66</td>
</tr>
<tr>
<td>OS</td>
<td>90.9%</td>
<td>57.14%</td>
<td>1.91</td>
<td>0.32-11.4</td>
</tr>
</tbody>
</table>

**Conclusions:** The current study fails to derive any prognostic significance of FDG-PET-CT in LA-NSCLC patients. A larger patient sample and longer follow-up might have showed a different result.

**Disclosure:** All authors have declared no conflicts of interest.

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