

**Abstract: O 81****Outcomes of patients with stage II-III non-small-cell lung cancer treated with proton therapy: The Proton Collaborative Group Prospective Registry Trial**

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**Purpose/Objective:** We assessed the outcomes of patients enrolled on the Proton Collaborative Group (PCG) registry trial with stage IIA-IIIB non-small cell lung cancer (NSCLC) treated with proton beam therapy (PBT). Approximately five-out-of-six patients were treated on the registry because they did not qualify for PCG-LUN005 or RTOG 1308 due to poor pulmonary function, co-morbidities, or other contraindications.

**Methods and Materials:** Between 2010-2015, 94 consecutive patients were treated with PBT for curative intent at four PCG institutions. Median age was 72 (range, 51-93) years. 62% were male and 91% white. 21% had an ECOG performance status of 2 or 3. Patients had stage IIA (14%), IIB (9%), IIIA (53%), and IIIB (24%) disease. Patients received definitive (83%) or adjuvant (17%) PBT. 85% received chemotherapy, including 70% treated with concurrent chemoradiation. A median dose of 70/2 Gy(RBE) was administered.

**Results:** Median follow-up was 10 months. 93% completed PBT. First site of recurrent disease was locoregional in 21% or distant in 12%. Median and 1-year OS were 13.2 months and 52.9%, respectively. Median and 1-year PFS were 11.0 months and 45.6%, respectively. Acute grade 3 and 4 toxicities occurred in 6% and 1%, respectively. Late grade 3 late toxicities occurred in 3% of patients. There was no late grade 4 toxicity. Five patients died during or shortly after PBT, (3 due to cardiac arrest/myocardial infarction and 2 for unknown reasons), but only one was felt to be related to treatment.

**Conclusions:** In a high-risk population with stage II-III NSCLC, PBT results in limited toxicity.