p16 and high-risk HPV in node positive cutaneous head and neck squamous cell carcinoma (cHNSCC) lymph node metastases. High-risk HPV subtypes are not associated with p16-positivity, and do not appear to play a role in this disease. HPV testing, in addition to p16-status in the unknown primary setting may provide additional information in determining a putative primary site.

**OC-0538**

**Tumor-related leukocytosis associated with poor radiation response and outcome in cervical cancer**

Y. Cho1, K. Kim1, K. Keum1, C. Suh1, G. Kim1, Y. Kim1
1Tosai Cancer Center, Radiation Oncology, Seoul, Korea Republic

**Purpose or Objective:** To investigate the prognostic significance of tumor-related leukocytosis (TRL) in cervical cancer patients treated with definitive radiotherapy

**Material and Methods:** Between 1986 and 2012, 2,456 patients with uterine cervical cancer (FIGO stage IA-IIB 494, stage IIA-IIIB 1530, stage IIIA-IIIB 394 and stage IVA 38) who received definitive radiotherapy (62.6%) or platinum-based chemoradiotherapy (37.4%) consisting of EBRT and ICBT were retrospectively analyzed. TRL was defined as WBC count ≥9,000/µL on ≥2 occasions at the time of diagnosis and during the course of treatment. The neutrophil/lymphocyte ratio (NLR) was defined as the absolute neutrophil count divided by the absolute lymphocyte count. Locoregional failure free survival (LRFFS) and overall survival (OS) were compared between patients with or without TRL.

**Results:** Median age of all patients was 55 years (range, 21-87) and the median follow-up time was 65.1 months (range, 0.7-347.8). Among 2,456 patients included in this study, TRL was observed in 398 (16%) at the initial diagnosis. Patients in TRL(+) group were younger in age and had larger tumor, advanced FIGO stage and more common LN metastases (all p < 0.05). TRL (+) group showed relatively lower rate of complete remission (CR) (90% vs. 97%, p = 0.042). The 10-year LRFFS and OS for all patients were 84% and 78%, respectively. Compared to TRL(-) group, LRFFS and OS were significantly lower in TRL(+) group (10-yr LRFFS: 69% vs. 87%, p < 0.001; 10-yr OS: 63% vs. 81% p < 0.001). After propensity score matching by age, FIGO stage, tumor size, LN metastasis, histologic subtype and pretreatment hemoglobin (Pre Tx Hb), both groups were well matched. The LR control and OS rate of TRL (+) group was still significantly lower than those of TRL (-) group. In multivariate analysis, advanced FIGO stage, non-SqCCa, larger tumor size and TRL were identified as risk factors for LRFFS and OS (all p < 0.05). In addition, Pre Tx Hb, LN metastasis and high NLR(≥2.5) were also associated with poorer OS (all p < 0.05). Among patients with LRF (n=345), patients with TRL at the time of recurrence accounted for 26% and showed relatively poorer median OS (6 vs. 12 months, p = 0.001).

**Conclusion:** This study supports the aggressive nature and poor radiation response of cervical cancer with leukocytosis. Given the unfavorable features and higher probability of treatment failure, optimal therapeutic approach and careful monitoring for early detection of recurrence should be considered for these patients.

**OC-0539**

**Stage II testicular seminoma: patterns of care and survival by treatment strategy**

S. M. Gaiser1, G. K. Balasubramani2, S. Beriwal3
1University of Pittsburgh Cancer Institute, Radiation Oncology, Pittsburgh-PA, USA
2University of Pittsburgh School of Public Health, Department of Epidemiology, Pittsburgh-PA, USA

**Purpose or Objective:** Stage II testicular seminoma is highly curable with radiotherapy (RT) or multiagent chemotherapy (MCT). These modalities have not been prospectively compared. Due to the rarity of stage II seminoma, prior studies are limited by small sample size. NCCN guidelines recommend RT as the preferred treatment for stage IIa, while EUA guidelines equally allow for RT or MCT. Both guidelines are equivocal for stage IIb, and recommend MCT for stage IIc.

**Results:** Median follow up time was 5.3 years. No differences were observed in clinicopathological factors based on p16 status. p16 was positive, intermediate and negative in 45 (31%), 21 (15%) and 77 (54%) of cases, respectively. No high-risk HPV subtypes were identified, irrespective of p16 status. High-risk HPV subtypes were identified, irrespective of p16 status. No high-risk HPV subtypes were identified, irrespective of p16 status.

**Conclusion:** Although radiotherapy for painful bone metastases leads to a meaningful pain response, QoL does not improve after treatment. Initially, it remains stable followed by deterioration towards the end of life.