Purpose or Objective: The current standard of care for newly diagnosed papillary thyroid carcinoma invading the trachea is surgical resection followed by radioactive iodine therapy (RAI) and thyroid stimulating hormone suppression. However, the local recurrence rate is high. Several studies reported adjuvant external beam radiotherapy (EBRT) reduced the local recurrence. The benefit of adjuvant EBRT remains controversial. We evaluated the effect of adjuvant EBRT on local control in a single institution database.

Material and Methods: Between May 2003 and October 2013, 36 patients with locally advanced papillary thyroid carcinoma invading the trachea (pathologic stage T4) were treated with surgical resection. After surgery, 16 patients received adjuvant EBRT using intensity modulated radiation therapy followed by RAI, and 20 patients were treated with RAI alone. The age range was 36-87 years (median 64 years). EBRT doses ranged from 30-66 Gy (median 60 Gy). There was no statistically significant difference in terms of clinical characteristics between the EBRT and no EBRT groups.

Results: Median follow up was 26.6 months (range, 16.5-40.1) in EBRT group, and 43.0 months (range, 13.9-117.6) in no EBRT group. There was no local or distant failure in EBRT group during the follow up. There were five local failures and one distant failure in no EBRT group. The two-year & five-year local failure free survival rates were 95.0% and 49.8% in EBRT group, and 43.9 months (range, 13.9-117.6) in no EBRT group.

Conclusion: Adjuvant EBRT was found to be an effective treatment for local control in papillary thyroid carcinoma invading the trachea with tolerable complications, in a study at a single institution. Longer follow up will be required to demonstrate outcomes for tumor control and complications.

Purpose or Objective: Locally advanced, high-risk cutaneous squamous cell carcinoma (CSCC) of the head and neck are typically aggressive and treated with combined modality therapy. These patients tend to be older, frail with multiple comorbidities which makes chemotherapy difficult to tolerate. Cetuximab is a monoclonal antibody against the EGFR receptor and has demonstrated activity in CSCC. We investigate the safety and efficacy of combined therapy in advanced, high risk CSCC with the addition of cetuximab.

Material and Methods: Patients were identified with locally advanced CSCC with high risk or very high risk features who were treated with cetuximab and radiotherapy between 2006 and 2013. A matched cohort over the same time period was identified who were treated with radiation. Propensity score analysis was performed with weighted factors including: Charlson Comorbidity Index score (age-adjusted), age, KPS, primary location, T and N stage, recurrent status, margin status, LVS, PNI and grade. Overall survival, progression free survival and freedom from local or distant recurrence were evaluated with the Kaplan-Meier method for both the unadjusted and propensity score adjusted groups. Multivariate analysis was performed using cox proportional hazard models.

Results: 29 patients were in the cetuximab and 39 in the control group. Median follow-up for alive patients was 30 months. Patients in the cetuximab group were more likely to have advanced N stage, positive margins and recurrent disease. After propensity score matching the groups were well balanced. OS was not statistically significant between the two groups but depicted in Table 1 below there were approximately 20% more long term survivors in the cetuximab group after matching. Local control was 76% and 79% in the cetuximab and control groups, respectively. The rate of distant metastases was lower in the cetuximab group 6.8% versus 10%. The incidence of grade 2-3 toxicity was 41% in the cetuximab group. There was one grade 3 cetuximab aceiniform rash, one grade 4 dysphagia and no grade 5 toxicity.

Table 1 Overall Survival Probabilities by year in both unadjusted and Propensity Score Adjusted Cohorts

<table>
<thead>
<tr>
<th>Years</th>
<th>Unadjusted</th>
<th>Cetuximab</th>
<th>No Cetuximab</th>
<th>Propensity Score Adjusted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>95%</td>
<td>90%</td>
<td>95%</td>
<td>95%</td>
</tr>
<tr>
<td>3</td>
<td>74%</td>
<td>74%</td>
<td>70%</td>
<td>70%</td>
</tr>
<tr>
<td>5</td>
<td>71%</td>
<td>69%</td>
<td>65%</td>
<td>65%</td>
</tr>
</tbody>
</table>

Conclusion: Although limited by small numbers, we found that there were more long-term survivors and less distant metastasis in the cetuximab group. This is the largest report of CSCC patients treated with cetuximab. In the absence of prospective data, we believe this data reveals that the addition of cetuximab is well tolerated and reveals signs of efficacy in this typically poor performing group of patients and should be pursued in clinical trials.

Electronic Poster: Clinical track: CNS

Purpose or Objective: Ki-67 index is used to assess cell proliferation during histopathological assessment of various tumours including high grade gliomas (HGG): Anaplastic astrocytoma, Anaplastic Oligodendroglioma and Glioblastoma Multiforme (GBM). We aimed to determine if there is a correlation between percentage staining of Ki-67 and overall survival in patients with HGG and determine a cut-point for percentage staining of Ki-67 that predicts for poorer survival.

Material and Methods: Records of adult patients diagnosed with HGG on histopathological specimens examined at the Institute of Clinical Pathology and Medical Research at Westmead Hospital, NSW, between 1st of January 2002 and 30th of July 2012 were identified. The specimens of these patients were examined for quantification of Ki-67 staining by two independent pathologists. Patient, disease, treatment and survival data were collected from hospital and cancer care service records. Descriptive statistical analyses were performed on the patient, disease and treatment data. Survival curves were constructed using Kaplan Meir methods. Using the minimum p value approach we obtained a cut-point for Ki-67 percentage staining that predicts for poorer survival.

Results: Of the eligible 78 patients (median age = 57, range 18 - 87) 46 (59 %) were males and 32 (41%) were females. 59 (76%) patients were of ECOG performance status 0 -1. Seven patients had anaplastic astrocytoma or anaplastic...