MATERIALS & METHODS

- **REDCap was used in order to input patient data.** This is the first REDCap database created for the input of big data for outcome analysis.
- **Data sources:** MOSAICK and PowerChart electronic health records
- **Study population:** OPC patients from 2012-2017 that were treated with radiation by Dr. Adam Raben
- **Analysis:** Descriptive statistics (means and percentages) used to analyze patient data

INTRODUCTION

- Cancer Care Delivery Outcomes Research is needed to evaluate the impact of aggressive multimodality therapy on development of acute complications and patient outcomes that drive health care cost, and to develop strategies to optimize care through prevention. The % of unplanned admissions nationally are common, ranging from 14-37%.
- The Helen F. Graham Cancer Center Multidisciplinary HN Clinic (MDC) provides multimodality evaluation, and treatment care strategies for Head and Neck (HN) cancer patients.
- OPC HPV+16 (human papillomavirus) is a rising trend in DE and typically occurs in younger, male, never-smokers. It is seen frequently at the HFGCC.
- In 2017, the HN-MDC introduced a REDCap data software to retrospectively input and evaluate outcomes of MDC-HN OPC patients from 2012-2017.

**Initial Goal of Study:** To evaluate the % of OPC-HN patients diagnosed through the MDC and treated with radiation as a component of management that required ER visits, hospitalizations, reactive PEG feeding tube placement, and treatment interruptions.

RESULTS

### Patient Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>N = 88</th>
<th>Characteristic</th>
<th>N = 87</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, mean (SD)</td>
<td>59.8 (10.4)</td>
<td>Current Smoker, N (%)</td>
<td>12 (13.6)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tonsil, N (%)</td>
<td>53 (60.9)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Former Smoker, N (%)</td>
<td>50 (56.8)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Base of Tongue, N (%)</td>
<td>25 (28.7)</td>
</tr>
<tr>
<td>HPV positive, N (%)</td>
<td>57 (65.0)</td>
<td>Never Smoker, N (%)</td>
<td>26 (29.5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pharyngeal Wall, N (%)</td>
<td>5 (5.8)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Soft Palate, N (%)</td>
<td>2 (2.3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Overlapping Sites, N (%)</td>
<td>2 (2.3)</td>
</tr>
</tbody>
</table>

**HPV Status of Patients Seen at the MDC (2012-2017)**

- **Percentage of Patient Population (%)**
  - 2012: 30%
  - 2013: 35%
  - 2014: 40%
  - 2015: 45%
  - 2016: 50%
  - 2017: 55%

**Treatments Received by OPC Patients at the MDC (2012-2017)**

- **Percentage of Patient Population (%)**
  - Radiation + Surgery: 25%
  - Radiation + Chemotherapy: 20%
  - Radiation + Erbitux: 15%
  - Surgery + Chemotherapy: 10%
  - Surgery + Erbitux: 5%
  - Radiation + Surgery + Chemotherapy: 0%
  - Radiation + Surgery + Erbitux: 0%
  - Radiation + Chemotherapy + Erbitux: 0%
  - Treatment Breaks: 5%

**Adverse Patient Side Effects**

- **Percentage of Patient Population (%)**
  - ER Visits: 10%
  - Hospitalizations: 15%
  - Treatment Breaks: 20%

**Percentage of Patient Population (%)**

- **Negative**
  - 2012: 40%
  - 2013: 45%
  - 2014: 50%
  - 2015: 55%
  - 2016: 60%
  - 2017: 65%

- **Positive**
  - 2012: 50%
  - 2013: 45%
  - 2014: 40%
  - 2015: 35%
  - 2016: 30%
  - 2017: 25%

- **N/A**
  - 2012: 0%
  - 2013: 0%
  - 2014: 0%
  - 2015: 0%
  - 2016: 0%
  - 2017: 0%

LIMITATIONS

- Retrospective data, which required tedious manual entry
- Incomplete information from electronic medical records, which limited the amount of data available to us
- Heterogenous treatment strategies

CLINICAL IMPLICATIONS

- Prospective data entry in a community cancer program is critical in the future to capture information from the start as the incidence in OPC HPV+16 grows in DE.
- Introduction of the 1st REDCap database for HN cancer was feasible and provided a standardized platform to input patient information and to initiate outcomes research and possible strategies to improve care.

CONCLUSIONS

- Data suggest that the MDC approach can result in reduction in both admissions and treatment interruptions from 2012-14 compared to 2015-17 and below national averages while minimizing reactive PEG’s to 10% that are usually removed after 3 months.
- The success is probably multi-factorial, and may be in part due to prospective identification of at-risk patients, aggressive output IV hydration, introduction of pain management pathways and the SCOOP program.
- Future analysis will include cause specific survival and the impact of de-escalation strategies and total treatment time for HPV+16 OPC patients

ACKNOWLEDGEMENTS

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REFERENCES


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