Human Papillomavirus (HPV) and Overall Survival (OS) After Progression of Oropharyngeal Squamous Cell Carcinoma (OPSCC)

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Conflict of Interest Disclosures

- No conflicts of interest
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Background

• Human papillomavirus (HPV) – a sexually transmitted infection – is now responsible for the majority of oropharyngeal squamous cell cancers (OPCs).

• HPV-positive vs. HPV-negative OPCs have better survival after treatment.

• Question: Does HPV-positivity have an impact on survival when patient has recurrence of cancer?
RTOG 0129

Arm 1
Standard fractionation (70 Gy/37 fx) x 7 wks
Cisplatin 100mg/m² (D 1, 22, 43)

Arm 2
Accelerated fractionation with concomitant boost (AFX-CB) {72 Gy/42 fx x 6 wks}
Cisplatin 100mg/m² (D 1, 22)

RTOG 0522

Arm 1
AFX-CB (70 Gy/35 fx) x 6 wks or IMRT
Cisplatin 100 mg/m² (D 1, 22)

Arm 2
AFX-CB (70 Gy/35 fx) x 6 wks or IMRT
Cisplatin 100 mg/m² (D 1, 22)
Cetuximab 400 mg/m² (pre-), 200 mg/m² (weekly)
Results

• 181 patients with recurrent disease (105 HPV-positive and 76 HPV-negative)

• Median time to disease recurrence: 8.2 vs. 7.3 months, p=0.67
Overall Survival After Disease Progression

![Graph showing overall survival after disease progression with two curves for p16-positive and p16-negative groups. The p16-positive group has a survival rate of 54.6% compared to 27.6% for the p16-negative group. The p-value is less than 0.001. The table below shows the number of patients at risk at different time points: 105 p16-positive, 61 months, 51 months; 76 p16-negative, 27 months, 19 months.]

No. at Risk
p16-positive 105 61 51
p16-negative 76 27 19
Overall Survival and Surgical Salvage

**Surgery**
- p16-positive: 72.4%
- p16-negative: 45.0%
- p = 0.004

**No Surgery**
- p16-positive: 47.4%
- p16-negative: 20.9%
- p = 0.003

Survival (%) vs. Years after Progression

<table>
<thead>
<tr>
<th>Years after Progression</th>
<th>p16-positive</th>
<th>p16-negative</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>100</td>
<td>100</td>
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<tr>
<td>1</td>
<td>75</td>
<td>50</td>
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<tr>
<td>2</td>
<td>50</td>
<td>25</td>
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<table>
<thead>
<tr>
<th>No. at Risk</th>
<th>p16-positive</th>
<th>p16-negative</th>
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</thead>
<tbody>
<tr>
<td>p16-positive</td>
<td>29</td>
<td>22</td>
</tr>
<tr>
<td>p16-negative</td>
<td>20</td>
<td>10</td>
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<tbody>
<tr>
<td>p16-positive</td>
<td>76</td>
<td>39</td>
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<tr>
<td>p16-negative</td>
<td>56</td>
<td>17</td>
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<th>p16-negative</th>
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<tbody>
<tr>
<td>p16-positive</td>
<td>21</td>
<td>9</td>
</tr>
<tr>
<td>p16-negative</td>
<td>30</td>
<td>10</td>
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</tbody>
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Conclusions

- HPV-positive OPC patients have longer survival than HPV-negative OPC patients.
- OPC patients who undergo surgical salvage live longer.