Head and Neck Cancer
– A mixed bag of tumours

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Svenskt Kvalitetsregister för Huvud- och Halscancer

Swedish Head and Neck cancer register (SweHNCR)
Presented at:

ANNUAL MEETING OF
THE SCANDINAVIAN SOCIETY
FOR HEAD AND NECK ONCOLOGY

March 20-21, 2014
STOCKHOLM—SWEDEN
Background:

- Population based epidemiologic data allow us to reveal differences in presumed homogeneous tumour entities.
- It has for long been obvious that squamous cell carcinoma of the head and neck (SCCHN) is a "mixed bag of tumours".
- However, also within the major tumour sites [oral cavity (OC), oropharynx and larynx] there are differences of biological and clinical importance.
• The Swedish Head and Neck Cancer Quality Register (SweHNCR) was established in 2008 and cover >97% of incident cases.

• Our presentation is based on data covering the period 2008-12.

• During this period a total of 6430 new cases were registered.
Distribution with respect to site and sex
• Cancer of the Oral Cavity can be subdivided into the major sites
  – mobile tongue (n: 588)
  – floor of mouth (FoM) (n: 245) and
  – gingiva (n:400)

• Male/Female ratio for mobile tongue was 1.03, for FoM 1.58 and for gingiva 1.08
  \[p: 0.017\]
• The major sub-sites in Oropharynx are:
  – Tonsil (n: 959)
  – Base of tongue (n: 432)
  – Oropharynx, other (n:49)

• M/F ratio was 2.75 for tonsil, 2.46 for base of the tongue and 2.06 for oropharynx, other (n:49) \[p:0.453\].
Larynx:

Larynx - Male/female ratios vs. site

- **Glottis**
  - Male: 87.5%
  - Female: 12.5%

- **Supraglottis**
  - Male: 65.8%
  - Female: 34.2%

- **NOS**
  - Male: 87.0%
  - Female: 13.0%

*p: < 0.001*
Age vs. site

25%, 50% och 75% percentiles
Age vs. Site – Oral cavity

The graph shows the distribution of age at diagnosis for different sites within the oral cavity, comparing males (blue circles) and females (red circles). The x-axis represents age at diagnosis, and the y-axis shows the specific oral cavity site: Bucca, Gingiva, Floor of mouth, and Tongue. The data points are represented by percentiles, indicating the range of ages at diagnosis for each site and gender.
Larynx: Age vs. Sex
[median age]

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glottis</td>
<td>67.9</td>
<td>69.3</td>
<td>68.1</td>
<td>0.65</td>
</tr>
<tr>
<td>Supraglottis</td>
<td>67.8</td>
<td>67.4</td>
<td>67.7</td>
<td>0.80</td>
</tr>
<tr>
<td>Total</td>
<td>67.9</td>
<td>68.0</td>
<td>67.9</td>
<td>0.53</td>
</tr>
</tbody>
</table>
However ..... 

Age distribution for laryngeal cancer 1993 – 2009
Glottis (n: 2.192) resp. supraglottis (n: 723)
Source: SoS statistikdatabas
<table>
<thead>
<tr>
<th></th>
<th>&lt; 40</th>
<th>Tot</th>
<th>% &lt;40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile tongue</td>
<td>41</td>
<td>588</td>
<td>7,0%</td>
</tr>
<tr>
<td>Fom</td>
<td>5</td>
<td>245</td>
<td>2,0%</td>
</tr>
<tr>
<td>Gingiva</td>
<td>2</td>
<td>400</td>
<td>0,5%</td>
</tr>
<tr>
<td>Total</td>
<td>48</td>
<td>1233</td>
<td>0,4%</td>
</tr>
<tr>
<td></td>
<td>p&lt;0.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tonsill</td>
<td>5</td>
<td>950</td>
<td>0,5%</td>
</tr>
<tr>
<td>BoT</td>
<td>9</td>
<td>432</td>
<td>2,1%</td>
</tr>
<tr>
<td>Other oroph</td>
<td>0</td>
<td>49</td>
<td>0,0%</td>
</tr>
<tr>
<td>Total</td>
<td>14</td>
<td>1431</td>
<td>1,0%</td>
</tr>
<tr>
<td></td>
<td>p=0.032</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glottis</td>
<td>4</td>
<td>600</td>
<td>0,7%</td>
</tr>
<tr>
<td>Supragl</td>
<td>1</td>
<td>228</td>
<td>0,4%</td>
</tr>
<tr>
<td>Total</td>
<td>5</td>
<td>828</td>
<td>0,6%</td>
</tr>
<tr>
<td></td>
<td>P=1.0</td>
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</tbody>
</table>
What about differences in survival, then?
... and within the same site?
... BoT vs. tonsil
Head and neck cancer is not simply a bag of apples of different colours
It is a bag full of vegetables of different shapes and colours
Conclusion 1:

- Our data supports the hypothesis that even within the major sites of SCCHN there are differences that are likely to reflect disparities in underlying carcinogenesis and tumour biology.
- These differences might be of importance for prevention and treatment.
- When interpreting and comparing merged data even for one site in e.g. clinical studies it is important to be aware of these differences, since inequalities in composition of included subsites might be reflected in outcome.
Conclusion 2:

• Our findings underscores *the importance of cooperation* in order to get homogeneous populations of sufficient number to be able to draw valid conclusions in clinical studies.
Thank you for your attention!