Oral late effects and taste function in long-term survivors after treatment of medulloblastoma and supratentorial primitive neuroectodermal tumor during childhood or adolescence

-Preliminary results

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Faculty Disclosure

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Background

• Annually 5/100 000 children (<19 years), diagnosed with brain tumors in Norway (5.2 mill)
  – 15-20 % medulloblastoma
  – 7 % supratentorial primitive neuroectodermal tumor (CNS-PNET)

• Treatment modalities
  – surgery, chemotherapy and/or radiotherapy
  – rarely radiotherapy to patients <3 yrs due to high risk of neurocognitive developmental disorders

Aim

- to investigate oral late effects in long term survivors (LTS) after treatment of medulloblastoma and CNS-PNET as part of a multidisciplinary study at Oslo University Hospital (OUH)

Subjects

- 65 LTS treated between 1974 – 2013 were invited to participate
- Eligibility criteria
  - treated before the age of 20 yrs
  - minimum 2 yrs observation time
Methods

• Interview and oral examination
• Test of taste and smell function
  – «Burghart» Sniffin’ Sticks and taste strips
• Bitewing and panoramic radiographs
• Clinical photographs
Results

65 LTS met the eligibility criteria

4 non-responders
9 declined participation
2 died before study start
1 moved abroad

49 LTS accepted (75 %)

3 due to neurocognitive / physical disabilities

46 LTS had an oral examination (71 %)
Subject characteristics (n=46)

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<td>Females (n)</td>
<td>23 (50%)</td>
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<td>Age; start of treatment, mean (range)</td>
<td>8 yrs (0.75-19)</td>
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<td>Age; oral examination, mean (range)</td>
<td>27 yrs (5-52)</td>
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<td>Follow-up time, mean (range)</td>
<td>19 yrs (3-40)</td>
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<td>Radiotherapy; yes</td>
<td>39 (85%)</td>
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Trismus

Def. Maximal Incisal Opening (MIO) $\leq 35$ mm

- $14/46$ (30%)
- Median(range)
  41 mm (16-55)
- LTS with MIO $\leq 35$ mm
  - $9/14$ (64%) treated $\leq 5$ yrs
  - $13/14$ (93%) treated with radiotherapy
Taste disturbances (n=41)

• 16 (39 %) had taste disturbances
• 7 (17%) ageusia
• 9 (22%) hypogeusia
Dental developmental disturbances*

- 13 of the 17 subjects (76%) treated ≤5 yrs

- Hypodontia: 10
- Microdontia: 6
- Hypoplasia: 4

* Based only on clinical examination. Third molars were excluded.
The preliminary results indicate that LTS after treatment of MB/CNS-PNET may experience several oral side effects, including trismus, dental developmental disturbances and reduced taste function. This may impact their oral health negatively.