PREVENTION AND EARLY DETECTION OF ORAL CANCERS IN HUNGARY, CHALLENGES AND FUTURE PLANS

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HEAD AND NECK CANCER

✓ „Common” head and neck cancers: squamous cell cancer arising from the mucosa of the upper aerodigestive tract (>90% of all head and neck cancers)

✓ Oral cavity (C00-C06)
✓ Oropharynx (C01, C05, C09, C10)
✓ Hypopharynx (C12, C13)
✓ Larynx (C32)

✓ Rare head and neck cancers:
✓ Nasopharynx (C11)
✓ Nose and paranasal sinuses (C30, C31)
✓ Salivary glands (C07, C08)

✓ Cancers of other organ systems with head and neck localisation
✓ Skin (C43, C44)
✓ Soft tissue and bone tumors (C49, C41)
✓ Thyroid and parathyroid gland cancers (C73)
CHARACTERISTICS OF THE „COMMON” HEAD AND NECK CANCERS

- **Etiology**: alcohol, smoking
- Poor oral hygiene: chronic infection and irritation of the mucosa
- **HPV**: most oral cavity cancers are HPV-negative, with poor prognosis and increased resistance to therapy
- Verified squamous cell cancers are sometimes preceded by precancerous lesions, most commonly by leukoplakia, or erythroplakia;
- However in the majority of the cases cancer develops without any alarming abnormalities of the mucosa - following around 3-month symptoms.
- At this point only 30 % of the patients have early stage diseases, characterized by good prognosis and can be treated with monotherapy (surgery or radiotherapy only).
- Advanced tumor-stage at diagnosis requires combined modality treatments, both local and/or regional: poor prognosis
  - Frequent tumor recurrence within 3 years
  - Occurrence of second primary cancers (3-5 % yearly)
  - Progression of the disease negatively influences quality of life

4. NCCN Guidelines v.2 2018. Head and Neck Cancers
IMPORTANCE OF CANCERS OF THE LIPS, ORAL CAVITY AND PHARYNX

• The increasing incidence or oral cavity cancer is an important healthcare problem worldwide, mainly in the low- and medium-income countries.

• Although the oral cavity has an easy access for examination, less than 30% of its cancers are diagnosed at an early stage with promising survival outlook.

• The prognosis of advanced stage oral cavity cancers is poor, 5-year survival is <50% despite their rather expensive multimodality treatment.

• In the last two decades the exponentially growing incidence and mortality figures of lip, oral cavity and pharynx cancers in Hungary attracted international attention for being not only the highest in Europe but are among the Top10 countries with the highest incidence and mortality in the world.
LIP AND ORAL CAVITY CANCERS

Hungary is among the Top 10 countries with the highest incidence and mortality rates in both sexes.
Incidence of oral cavity cancers

Changes in the incidence over 15 years:
- Males: -34%
- Females: +9%
LIP, ORAL CAVITY, AND PHARYNX CANCER MORTALITY IN EUROPE

IARC – WHO Data

2013
ORAL CAVITY AND PHARYNX CANCER MORTALITY IN EUROPE

Age-standardized death rates /100000 males

WHO-IACR 1955-2013
TOBACCO EPIDEMIC

• Manufactured cigarettes were introduced early in the 20th century
• Free distribution to soldiers and mass advertising promoted cigarette sales until the 1950s in the UK, and until the 1960s in the US
• When the hazards of smoking have been recognized, effective tobacco control policies have been introduced
  • tax on cigarettes,
  • smoke-free laws
• The decline of cigarette sales did not immediately resulted in decreasing number of deaths, on the contrary it continued to increase for several decades due to the aging of non-quitters with the longest lifetime exposition to actively inhaled smoke

SURVIVAL TRENDS OF HEAD AND NECK CANCERS IN EUROPE
The EUROCARE-5 population-based study

- Based on the data of **250000 HN cancer patients** from **86 registries** between **1999-2007**
- The 5-year RS **improved by 3-5%** for oral cavity, oropharynx and hypopharynx cancers, and remained **stable for larynx cancers**;
- **Five-year age-standardized RS:**

<table>
<thead>
<tr>
<th></th>
<th>All Europe</th>
<th>Eastern Europe</th>
<th>Northern Europe, UK, Ireland</th>
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<tbody>
<tr>
<td>Hypopharynx:</td>
<td>25%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oropharynx:</td>
<td>39%</td>
<td>28%</td>
<td>46%</td>
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<tr>
<td>Oral tongue:</td>
<td>43%</td>
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</tr>
<tr>
<td>Oral cavity:</td>
<td>45%</td>
<td></td>
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<tr>
<td>Larynx:</td>
<td>59%</td>
<td>47%</td>
<td>62%</td>
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</tbody>
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**Five-year RS was poor for:** males, elderly persons, Eastern–Europeans

>50% of patients had local or distant metastasis at diagnosis

**Early detection and timely start of treatment is necessary**

IN-EQUALITIES IN THE EARLY DETECTION AND SURVIVAL RESULTS OF ORAL CAVITY AND PHARYNX CANCERS IN HUNGARY

• > 80% of head and neck (including oral) cancer deaths could be prevented, that develop due to tobacco use, unhealthy diets, alcohol consumption, inactive lifestyles and infection

• People at risk have:
  • History of smoking and alcohol consumption
  • Poor general and oral hygiene
  • Significant co-morbidities
  • Low educational level
  • Low socio-economic status

• Low-income groups are generally more exposed to these risk factors and have less access to the health services and health education that would empower them to make right decisions
DIAGNOSIS AND TREATMENT DELAYS

• As the stage at diagnosis is the most important prognostic factor for survival, early detection and treatment of cancer may result in cure and long-term survival, with good quality of life.
• These patients do not reach proper healthcare in time¹
• Higher rate of delayed discovery of the disease
• Patient delay: the most significant period of time between the first symptoms of cancer and the first consultation with a healthcare professional concerning the symptoms²
• The mean delay is ~3.5 months (0-730 days)²

¹Takes RP et al: Head Neck 2010
REASONS FOR PATIENT DELAY

• <45 years old patients: majority heard of cancer, but did not think, that his/her symptoms were consistent with it
• ~40% used remedies before seeing a doctor
• Results of a psychosocial questionnaire revealed that cognitive and psychosocial factors influenced more the delay than sociodemographic or health-related ones\(^1\)

• The role of the dentists:
  • Annual dental check-up patients have significantly shorter delays
  • Dentists are more likely to diagnose cancer at an early stage than primary care physicians.

WHICH METHOD TO USE FOR ORAL CANCER SCREENING?

• **Population-based screening:**

only one evidence-based randomized controlled trial in Kerala, India has proven that oral cavity screening performed by visual examination and palpation can result in decrease mortality during a 12-year long period:

138 oral cancer death happened in the screened group of 87655 healthy people ≥35 years old vs.

154 in the control group of 95356 healthy people ≥35 years old. This difference was not enough for the method to be accepted as basis for a population-based screening program.

WHICH METHOD TO USE FOR ORAL CANCER SCREENING?

- **Opportunistic screening**: non-planned examination of the oral cavity and the neck during any patient-physician meetings for any reasons. Dental visits serve as screening opportunities ordered by the law in Hungary.

- Family physicians are also advised to perform oral cavity screening examinations.

- Unfortunately some **dentists, and GPs** do not take seriously the importance of oral cavity examination by visual assessment and palpation.

- **Targeted screening of risk groups**: selective screening of a targeted group of the population who are at special risk to develop oral cavity cancer. This type of oral cancer screening seems to be cost-effective.
EARLY CANCER CASES: LIP
EARLY CANCER CASES: ORAL CAVITY
Treatment options for early stage oral cavity cancer

- Early, TNM I-II stage: 5-year survival < 80%

Monotherapy: surgery or radiotherapy
Clinical history:
28-year old female, non-smoker, non-drinker, good oral hygiene, 21-week pregnant.

She visited her dentist for some soreness in the right side of her tongue. The dentist discovered an ulcer of 1 cm in longest diameter and found it suspicious for being cancer. This was verified by biopsy: histology: Gr2 squamous cell carcinoma, p16 positive.

TNM stage: cT1 N0 M0

Therapy: excision of the primary cancer
PROGRESSION OF THE CANCER

Before surgery

3 months after surgery
The mother: following the delivery of his son by cesarean section in July 2007, a right radical neck dissection was performed and postoperative concomitant radio-chemotherapy administered.
She is a 11-year survivor with complete remission of cancer.
CHALLENGES OF EARLY DETECTION OF LIP AND ORAL CAVITY CANCERS

- There is little knowledge of the public about etiology, signs and symptoms of oral cavity cancers
- People at risk (regular smokers, drinkers, who do not clean their teeth properly) are difficult to reach for any kinds of examination programs
- Preclinical phase of the disease is relatively short, validated methods for preclinical diagnosis are missing:
  - dyeing of the mucosa with toluidin-blue dye or fluorescein
  - brush – cytology examination or
  - salivary biomarkers
- There is not sufficient evidence to support their capacity for the early diagnosis of subclinical stages of the pathogenic period before cancer phenotypes are manifested.
FUTURE PLANS
Selective screening of high-risk populations for premalignant and malignant oral cavity lesions

• Based on the files of family physicians, who voluntarily join to the project the recorded smokers and drinkers who skipped the regular dental visits for more than one year should be called by a written invitation to an oral cavity screening by visual assessment and palpation.

• At the same time raising awareness can happen regarding the dangers of unhealthy lifestyles, and about the characteristic symptoms of head and neck cancer, should it occur later in the persons life.

• This short and simple examination can be taught to the primary care physicians easily, the only equipment they need is a head lamp and some spatula.
American Nicole Gibbs, 26, has withdrawn from this month's French Open after being diagnosed with a rare form of cancer that was found by her dentist.

The world number 117 will have surgery on Friday.

"Unfortunately I will be withdrawing from the remainder of the clay season and will not be competing at this year's Roland Garros," Gibbs said on Monday. "Fortunately this form of cancer has a great prognosis and my surgeon is confident that surgery alone will be sufficient treatment."

Let us wish her all the best, and let us hope time is coming and near when all the dentists will be on guard when they look into the mouth of their patients.

https://www.bbc.com/sport/tennis/48259956
THANK YOU FOR THE ATTENTION!
TOBACCO EPIDEMIC/2
Sequence of four stages that apply worldwide

• Stage 1: beginning of the epidemic, <20% smoking prevalence
• Stage 2: >20% prevalence with a peak of 40%-80%. No of the tobacco attributable deaths begins to rise as a fraction of all deaths.
• Stage 3: flattening or downturn of smoking prevalence coinciding with a continuing steep increasing with the smoking-attributable deaths.
• Stage 4: Decline in both the prevalence and the smoking attributable deaths.
• WHO Framework Convention on Tobacco Control is at the centre of international efforts to reduce tobacco-related harms.