

Title Head and Neck Cancer in the Elderly

Dr. Ebrahim Karimi
Associated Professor of
Tehran University of Medical Sciences
Amir-alam Hospital



INTRODUCTION

- ▣ Head and neck cancer is a disease of older adults
- ▣ an estimated 61% of patients ages 65 and older by the year 2030
- ▣ More than 90% are squamous cell carcinomas that arise from the mucosal surfaces of the oral cavity, oropharynx, and larynx
- ▣ early disease (stages I–II), there is an 80% cure rate
- ▣ A majority of patients (>60%) with (HNSCC) present with locoregionally advanced disease (stages III and IVA/B) and metastatic tumors (stage IVC)
- ▣ more than half of patients with locally advanced HNSCC develop recurrences and 30% are at risk of distant metastases

Head and Neck Cancer (HNC)

A disease of the old?

- ▣ Worldwide HNC is still increasing (688.000 in 2012)
- ▣ Majority still tobacco and alcohol related
- ▣ Increase of viral-associated OPC, less so in elderly
- ▣ 47% of SCCHN patients >65 years of age
- ▣ The incidence of HNC among older patients is expected to increase 34% over the next 10 years, and 64% over the next 20 years
- ▣ Most studies use the age of 70 (or even 75) as a cut-off for being old

(HNC)

The problem of aging

- ▣ Aging is associated with:
 - loss of function reserve of multiple organ systems
 - increased prevalence of chronic diseases
 - enhanced susceptibility to stress
- ▣ However, age-related modifications occur at different rates in different individuals
- ▣ Chronological age \neq biological age

HNC

The effect of aging on outcome

- Few studies available specifically focused at older age
- Variable outcomes in studies:
 - similar outcome when similarly treated
 - worse outcome, due to higher comorbidity status
 - independent prognostic variable?
- Multiple studies concluded that geriatric SCCHN patients receive non-standard and less aggressive therapies

Decision Making

- ▣ Disease factors (e.g. site, stage, biology [HPV,EGFR], specific risk factors for locoregional or distant relapse)
- ▣ Patient factors (age, sex, performance status, nutritional status, comorbid chronic disease, oral health, lifestyle habits, socio-economic status)
- ▣ Treatment factors (surgery, radiotherapy, chemotherapy, immunotherapy, targeted therapy)
- ▣ What do patients want?

Treatment Options

- ▣ Early-stage SCCHN (stage I-II)
 - ERT vs BT vs S (depending on patient/disease factors)
- ▣ Locoregionally advanced SCCHN (stages III-IV)
 - Surgery → adjuvant RT or concurrent CRT (CCRT)
 - Definitive CCRT (surgery remains an option)
 - Definitive cetuximab/RT (surgery remains an option)
 - Induction chemotherapy (ICT) → local treatment
- ▣ Recurrent/metastatic SCCHN
 - Recurrent resectable: postop. RT or CCRT3
 - R/M-SCCHN: PFE (fit patients); single drug (PS2), BSC2

The Importance of Comorbidity

- ▣ Comorbidity scores may contribute in decision process:
 - Charlson Comorbidity Index (CCI)
 - Adult Comorbidity Evaluation 27 (ACE27)
- ▣ • Comorbidity of importance both in the primary disease setting and in the recurrent disease setting
- ▣ • Inclusion of comorbidity led to a further refinement in the prognostic model in OPSCC patients

Chemotherapy in the Elderly

Dangers

- ▣ Decrease in renal blood flow → GFR ↓ → cave: cisplatin, carboplatin, MTX
- ▣ Serum creatinine does not reflect renal function in the elderly
- ▣ Consider replacing cisplatin with carboplatin
- ▣ Gastric enzymes & splanchnic blood flow ↓ → absorption oral drugs ↓
- ▣ Liver mass and cytochrome 450 ↓ (cave combination with drugs that have exclusive liver metabolism (e.g. opioids))
- ▣ Elderly patients with GFR ↓ and preexisting neuropathy (Cis, Vinca, Tax)
- ▣ Fluorouracil and fluoropyrimidine therapy → diarrhea, mucositis.
Early rehydration in CT-induced diarrhea recommended (NCCN)
- ▣ Elderly have a physiologic decline in intracellular DPD levels (cave 5-FU)
- ▣ Risk of myelosuppression ↑ (over 65 yrs of age): consider G-CSF

Better Selection of Patients

- ▣ Geriatric screening tools to estimate whether patients are able to tolerate CCRT or BRT
 - G8 screening tool
 - Flemish version of the Triage Risk Screening Tool (fTRST)
 - Goningen Frailty Indicator
 - Vulnerable Elders Survey-13 (VES-13)
 - Abbreviated Comprehensive Geriatric Assessment

G8 screening tool

- The total score of the G8 screening tool can range from 1-17
- A high-risk profile = score ≤ 14

Items	Possible answers	Score
Food intake in the last 3 months	0: severe reduction in food intake 1: moderate reduction in food intake 2: normal food intake
Weight loss during the last 3 months	0: weight loss >3kg 1: does not know 2: weight loss between 1 and 3 kg 3: no weight loss
Mobility	0: bed/chair bound 1: able to get out of bed/chair but does not go out 2: goes out
Neuropsychological problems	0: severe dementia or depression 1: mild dementia or depression 2: no psychological problems
Body Mass Index (BMI)	0: BMI <19 1: BMI 19 to <21 2: BMI 21 to <23 3: BMI 23 or greater
Takes more than 3 medications per day	0: yes 1: no
Self-rated health status (compared to other people of the same age)	0: not as good 0.5: does not know 1: as good 2: better
Age	0: >85 1: 80-85 2: <80
Total score (0-17) [Cut-off ≤ 14 indicating impairment]	

Flemish version of the Triage Risk Screening Tool (fTRST)

- The total score of the fTRST can range from 0-6
- A high risk profile in the oncologic population is a score ≥ 1

Items	Score	
	Yes	No
1. Presence of cognitive impairment (disorientation, diagnosis of dementia, or delirium)	2	0
2. Lives alone or no caregiver available, willing, or able	1	0
3. Difficulty with walking or transfers or fall(s) in the past 6 months	1	0
4. Hospitalized in the last 3 months	1	0
5. Polypharmacy: ≥ 5 medications	1	0
Total score	0–6	
abnormal if ≥ 2 within the geriatric population and ≥ 1 within the oncologic population		

Results: both screening tools have a high sensitivity and moderate NPV to detect patients with a high-risk profile. G8 had the strongest prognostic value for OS HR for G8 normal vs abnormal, 0.38 (95%CI: 0.27-0.52)

ORAL CAVITY

- Early-stage
 - Stage I : any tumor < 2 cm with < 5 mm depth of invasion
 - Stage II : tumor 2-4 cm with or depth of invasion > 5 mm and < 10
- addressed quickly and effectively with surgery without functional loss
- Definitive radiotherapy is often not the primary treatment modality in because of the length of treatment required and the long-term adverse effects, including xerostomia, altered sense of taste, dental issues, and risk of osteoradionecrosis & increased Mortality
- elderly patients who are medically unfit for surgery, radiotherapy remains an effective curative option(external beam radiotherapy or brachytherapy)
- Trial demonstrated an increased survival benefit to elective neck dissection in oral cavity cancer (except for invasion < 3 mm)
- sentinel lymph node biopsy can provide a negative predictive value of 95%

OROPHARYNX

- ▣ half of all oropharyngeal carcinoma attributed to HPV
- ▣ Early-stage carcinoma : lesion < 4 cm in its greatest dimension without invasion into surrounding structures or nodal involvement
- ▣ Soft palate tumors are treated with radiotherapy, because surgery often leads to higher morbidity, especially velopharyngeal insufficiency
- ▣ tonsil lesions usually can be surgically resected with minimal risk to speech and swallowing
- ▣ Radiotherapy generally is favored for base-of-tongue cancers
- ▣ Ipsilateral neck treatment is appropriate for lesions localized to the tonsil, whereas bilateral lymphatic treatment is necessary for most other oropharyngeal sites
- ▣ data in advanced-stage HPV-related HNSCC show that de-escalated therapy(better prognosis and longer survival)

HYPOPHARYNX

- ▣ Early-stage cancer is confined to the hypopharynx <4 cm without vocal cord fixation or nodal involvement
- ▣ Radiotherapy is the general default choice for early-stage hypopharyngeal cancer because of its adequate survival outcomes and functional preservation
- ▣ no differences in the incidence of mucositis, weight loss, osteoradionecrosis, or laryngeal dyspnea between the general population and the elderly
- ▣ all patients with clinically node-negative disease should have bilateral elective treatment to the neck

LARYNX

- ▣ Early-stage laryngeal cancers are tumors that do not invade the thyroid cartilage or show evidence of nodal involvement
- ▣ radiation and surgery have been shown to have similar survival
- ▣ IMRT minimize radiotherapy to the carotid arteries with respectable local control
- ▣ Minimally invasive approach is the preferred method to preserve function if tumor-free margins can be achieved
- ▣ low risk that glottic cancers will spread to lymph nodes, observation after treatment of the primary tumor is recommended.³² Supraglottic and subglottic tumors require bilateral elective therapy of the neck

NASOPHARYNX

- ▣ The standard of care for early nasopharyngeal cancer is radiotherapy, and it has excellent outcomes
- ▣ Surgery plays little role in the primary treatment, because this area is not readily accessible for an oncologic resection
- ▣ Traditionally, the neck is treated with elective whole-neck radiotherapy
- ▣ elective radiotherapy can spare the lower neck in clinically node-negative disease without sacrifice of oncologic outcomes