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Oncospace

Dx Rx Tx

Purpose/Objectives

- Acute dysphagia is a significant complication for head and neck cancer patients undergoing (chemo)radiotherapy
- To determine dosimetric risk factors for patient-reported dysphagia

Materials/Methods

All the data was **prospectively collected** during routine clinical care and aggregated in Oncospace

Inclusion criteria
Head and neck patients
Treated with intensity-modulated-radiotherapy from 2015 – 2017
Exclusion criteria
priori irradiation and surgery to HN region;
pre-RT swallow difficulty

Outcome

Sydney Swallow Questionnaire (SSQ): 0-1700, the higher, the worse.

Worst SSQ during RT

Variables

- *Baseline characteristics*
  Age, gender, race, HPV, smoking,tumor staging, tumor location,chemotherapy
- *Dose*
  Ipslateral and contralateral parotid and submandibular glands, superior constrictor muscle, cricopharyngeal muscle

Univariate and stepwise multivariate linear regression to predict acute SSQ

Results

Table1. Study Subjects

Parameters	N	%
Age, median (range)	58	60 (35-86)
RT dose (cGy), median (range)	58	7000 (4400- 7360)
Gender		
male, n (%)	50	86.21
female, n (%)	8	13.79
Race		
Caucasian, n (%)	44	75.86
African American, n (%)	9	15.52
Asian, n (%)	1	1.72
Others, n (%)	4	6.90
Smoking status		
never smoked, n (%)	25	43.10
quit smoking, n (%)	21	36.21
currently smoking, n (%)	4	6.90
HPV		
Yes, n (%)	35	60.34
No, n (%)	23	39.66
Treatment Modality		0.00
RT alone, n (%)	9	15.52
ChemoRT, n (%)	49	84.48
Tumor site		
oral cavity, n (%)	8	13.79
nasopharynx, n (%)	5	8.62
oropharynx, n (%)	33	56.90
hypopharynx, n (%)	1	1.72
larynx, n (%)	3	5.17
others, n (%)	8	13.79
T stage		
< 2, n (%)	1	2.00
≥ 2, n (%)	42	98.00
N stage		
< 2, n (%)	15	28.40
≥ 2, n (%)	34	65.52

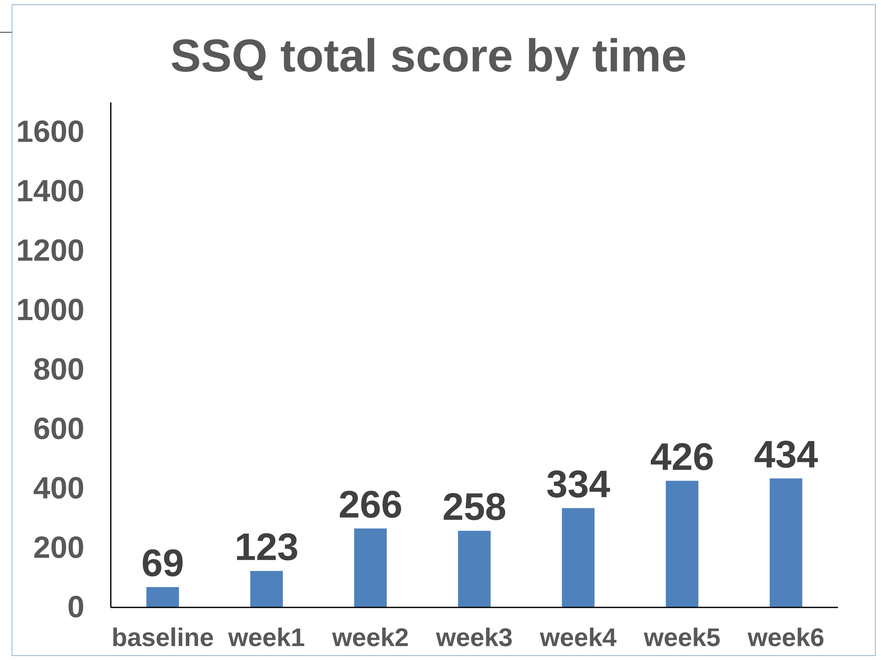

Table 2. Multivariate linear regression model

Parameters	coefficients	95% CI	p-value
Contralateral parotid gland D40	9.64	3.75 – 15.51	*< 0.01*
Superior constrictor muscle D100	13.90	5.87 – 21.91	*< 0.01*

Conclusions

- Our pilot results suggest that the dose to the contralateral parotid gland and SC muscle may play a role in the development of acute CRT-related PRO dysphagia.
- Our findings underscore the value of OTV SSQ assessments and how acute PRO dysphagia may be affected by parotid function, which may not be captured by physician-graded swallowing function.
- Ongoing efforts include the development of a comprehensive atlas of swallow-related structures that can be deformably registered along with continued OTV SSQ evaluations.
- This work offers the promise of reducing the severity of CRT-related PRO dysphagia