

Additional file 2

Real study data characteristics and specification of predictors.

Table 1 General study population characteristics. For age we report the median and standard deviation. For the other variables, we report the number and the percentage of the whole population.

	UMCG (n=740)
Patient characteristics (at baseline)	
Age	63 (10)
Gender	
Men	552 (75%)
Women	188 (25%)
Primary tumor site	
Pharynx	356 (48%)
Larynx	344 (46%)
Oral cavity	40 (5%)
Treatment modality	
Conventional radiotherapy	159 (21%)
Accelerated radiotherapy	287 (39%)
Chemoradiation	252 (34%)
Bioradiation	42 (6%)
T-classification	
Tis-T1	136 (18%)
T2	246 (33%)
T3	182 (25%)
T4	176 (24%)
N-classification	
N0	356 (48%)
N1	64 (9%)
N2	303 (41%)
N3	17 (2%)
Predicted outcomes (at M6)	
Xerostomia \geq Grade 2	200 (27%)
Dysphagia \geq Grade 2	102 (14%)

Table 2 Predictors used in each predictor set. \mathbb{R} refers to continuous predictors, and $\{0, 1\}$ refers to binary predictors. PCM refers to the pharyngeal constrictor muscle. Organs at risk were delineated following consensus guidelines [1]. Dose is expressed in Gray (Gy).

Predictor	A* (dim=7)	B* _{Δ} (dim=19)	C* (dim=13)	D* _{Δ} (dim=43)
Age	\mathbb{R}	\mathbb{R}	\mathbb{R}	\mathbb{R}
Grade 1 complications at baseline	$\{0, 1\}$	$\{0, 1\}$	$\{0, 1\}$	$\{0, 1\}$
Grade 2 complications at baseline	$\{0, 1\}$	$\{0, 1\}$	$\{0, 1\}$	$\{0, 1\}$
Submandibular left: mean dose	\mathbb{R}	\mathbb{R}	\mathbb{R}	\mathbb{R}
Submandibular left: V10, V30, V50	-	\mathbb{R}	-	\mathbb{R}
Submandibular right: mean dose	\mathbb{R}	\mathbb{R}	\mathbb{R}	\mathbb{R}
Submandibular right: V10, V30, V50	-	\mathbb{R}	-	\mathbb{R}
Parotid left: mean dose	\mathbb{R}	\mathbb{R}	\mathbb{R}	\mathbb{R}
Parotid left: V10, V30, V50	-	\mathbb{R}	-	\mathbb{R}
Parotid right: mean dose	\mathbb{R}	\mathbb{R}	\mathbb{R}	\mathbb{R}
Parotid right: V10, V30, V50	-	\mathbb{R}	-	\mathbb{R}
PCM.Superior.Dm	-	-	\mathbb{R}	\mathbb{R}
PCM.Superior V10, 30, 50	-	-	-	\mathbb{R}
PCM.Med.Dm	-	-	\mathbb{R}	\mathbb{R}
PCM.Med V10, 30, 50	-	-	-	\mathbb{R}
PCM.Inferior.Dm	-	-	\mathbb{R}	\mathbb{R}
PCM.Inferior V10, 30, 50	-	-	-	\mathbb{R}
Supraglottic.Dm	-	-	\mathbb{R}	\mathbb{R}
Supraglottic V10, 30, 50	-	-	-	\mathbb{R}
OralCavity.Ext.Dm	-	-	\mathbb{R}	\mathbb{R}
OralCavity.Ext. V10, 30, 50	-	-	-	\mathbb{R}
GlotticArea.Dm	-	-	\mathbb{R}	\mathbb{R}
GlotticArea V10, 30, 50	-	-	-	\mathbb{R}

References

1. Brouwer CL, Steenbakkens RJ, Bourhis J, Budach W, Grau C, Grégoire V, et al. CT-based delineation of organs at risk in the head and neck region: DAHANCA, EORTC, GORTEC, HKNPCSG, NCIC CTG, NCRI, NRG Oncology and TROG consensus guidelines. *Radiotherapy and Oncology*. 2015;117(1):83–90.