Research for a Life without Cancer

Impact of parotid gland migration on xerostomia prediction

Presenting Author: Rosario Astaburuaga Date and Time: August 2nd 2018, 8:30 AM Session Name: Treatment implications of motion management

Low gradient domain

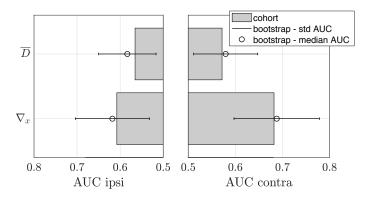


Fig 1. The planned mean dose \overline{D} does not recognized G2 xer. patients. Instead, this endpoint was well predicted by average dose gradient in right-left direction $\nabla_{\mathbf{v}}$.

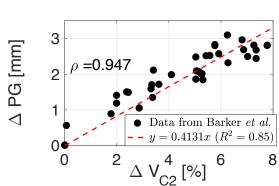


Fig 2. Used correlation to estimate PG migration towards medial from the volume reduction of the external contour at the C2 level (Barker et al. 2004).

Before first fraction

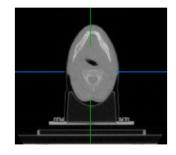
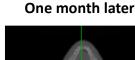
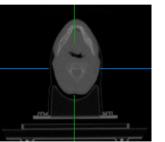


Fig 3. MVCT slices at C2 level. For this patient, $\Delta PG_{\tau} = 5.7$ mm towards medial.





 $\overline{D}_{accum} \sim \overline{D}_{planned}$ $\overline{D}_{accum} \neq \overline{D}_{planned}$ 10 5 0 0.5 1.5 2.5 0 2 planned ∇_{\downarrow} (contra) [Gy/mm]

High gradient domain

Fig 5. Cohort was split into low and high gradient domain by the median value of planned ∇_x .

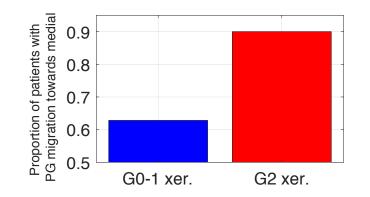


Fig 4. A bigger proportion of G2 xer. patients suffered PG migration towards medial (ΔPG_{T}), compared with negative patients.

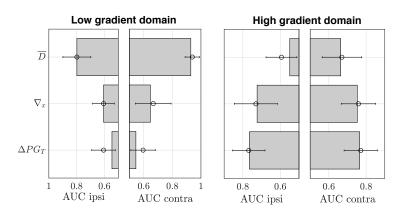


Fig 6. G2+ xer. patients in the low and high gradient domains were succesfully recognized by the planned \overline{D} and ΔPG_{τ} , respectively.