

Supplemental Data

Model	Odds Ratio	2.5 %	97.5 %	P value
Relapse at 6 months	1,11	1,01	1,21	0,01
Relapse at 12 months	0,9	0,53	1,11	0,55
relapse at 18 months	1,16	1,02	1,35	0,02
relapse at 24 months	1,07	0,9	1,19	0,33
relapse at 36 months	1,03	0,74	1,19	0,78

SUPPLEMENTAL TABLE 1: *Univariate Logistic Regression Analysis to determine Area (cm²) parameter, associated with the ability to predict relapse at different time*

Model	Odds Ratio	2.5 %	97.5 %	P value
Thickness (mm)	2,48	1,12	5,78	0,03
Area (cm ²)	1,07	1,00	1,15	0,03
Mean volume - gtv lesion (cm ³)	1,48	1,07	2,046	0,01
Administered dose (MBq)	1,004	1,00	1,01	<0,01
Target dose (Gy)	1,04	0,98	1,09	0,17
Mean target dose (Gy)	1,04	1,01	1,06	<0,01
Mean superficial dose at 0,001mm depth (Gy)	1,01	1,00	1,01	<0,01
Mean dose at 0.5mm depth(Gy)	1,03	1,01	0,05	<0,01

SUPPLEMENTAL TABLE 2: *Univariate logistic regression analysis to determine lesion characteristics and therapy parameters associated with the ability to predict CTCAE*

Supplemental Figure 1: Male 81 yo relapse of nodular BCC of the thorax previously treated with surgery and external radiation therapy. Three large lesions of relapse Lesion 1: Area 28cm², thickness 1.6mm; lesion 2: Area 10cm², thickness 1.6mm; lesion 3: area 13cm², thickness 2mm. The three lesions were treated with ¹⁸⁸Re-resin in different time points: area 1 and 2 at the same time, lesion 3 after 12 months.

a) before application of ¹⁸⁸Re-resin, to note the evident scar and the depigmentation of the whole area due to previous surgery and Radiation Therapy. **b)** lesion 1; mean dose 45 Gy; treatment time 115 minutes; Lesion 2: mean dose 46 Gy; treatment time 175 minutes **c)** after 28 days Grade 3 CTCAE **d)** after 180 days biopsies resulted negative for relapse; to note the severe depigmentation. **e)** 12 months after the treatment of lesion 1 and 2; before treatment of lesion 3: evident depigmentation no signs of relapse. Patient died 12 months after the second treatment for causes not related to BCC

