

**Table S1.** Comparison of volume metrics obtained by applying both manual segmentation and region growing segmentation to the subset of 32 patients with 32 unifocal lesions.

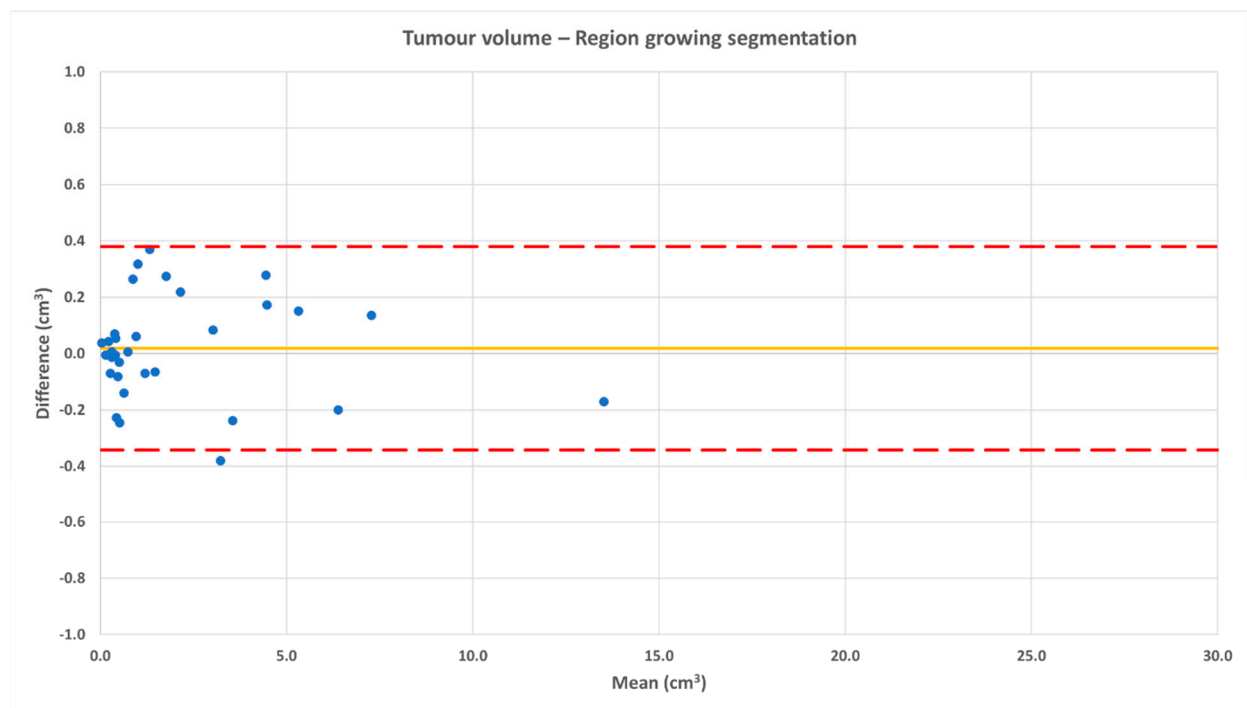
	Patients who Underwent Breast- Conserving Surgery (23 patients)	Spearman's $\rho$	Patients who Underwent Mastectomy (9 patients)	Spearman's $\rho$
Median MS-TBVR Reader 1 (IQR)	1.19‰ (0.49‰–2.57‰)	0.986	4.11‰ (1.34‰–6.29‰)	0.983
Median RG-TBVR Reader 1 (IQR)	1.08‰ (0.51‰–2.60‰)		3.42‰ (1.20‰–6.55‰)	
Median MS-TBVR Reader 2 (IQR)	1.09‰ (0.49‰–2.94‰)	0.984	3.97‰ (1.49‰–6.08‰)	0.983
Median RG-TBVR Reader 2 (IQR)	1.02‰ (0.50‰–2.40‰)		2.86‰ (1.11‰–6.03‰)	
Median MS-tumour volume Reader 1 (IQR)	0.70 cm <sup>3</sup> (0.40–1.91 cm <sup>3</sup> )	0.980	2.71 cm <sup>3</sup> (0.52–4.38 cm <sup>3</sup> )	0.967
Median RG-tumour volume Reader 1 (IQR)	0.74 cm <sup>3</sup> (0.31–1.67 cm <sup>3</sup> )		2.26 cm <sup>3</sup> (0.50–4.58 cm <sup>3</sup> )	
Median MS-tumour volume Reader 2 (IQR)	0.99 cm <sup>3</sup> (0.39–2.21 cm <sup>3</sup> )	0.971	2.82 cm <sup>3</sup> (0.74–4.64 cm <sup>3</sup> )	0.983
Median RG-tumour volume Reader 2 (IQR)	0.74 cm <sup>3</sup> (0.33–1.57 cm <sup>3</sup> )		2.04 cm <sup>3</sup> (0.64–4.39 cm <sup>3</sup> )	

IQR, interquartile range; MS, manual segmentation; RG, region growing segmentation; TBVR, tumour-to-breast volume ratio.

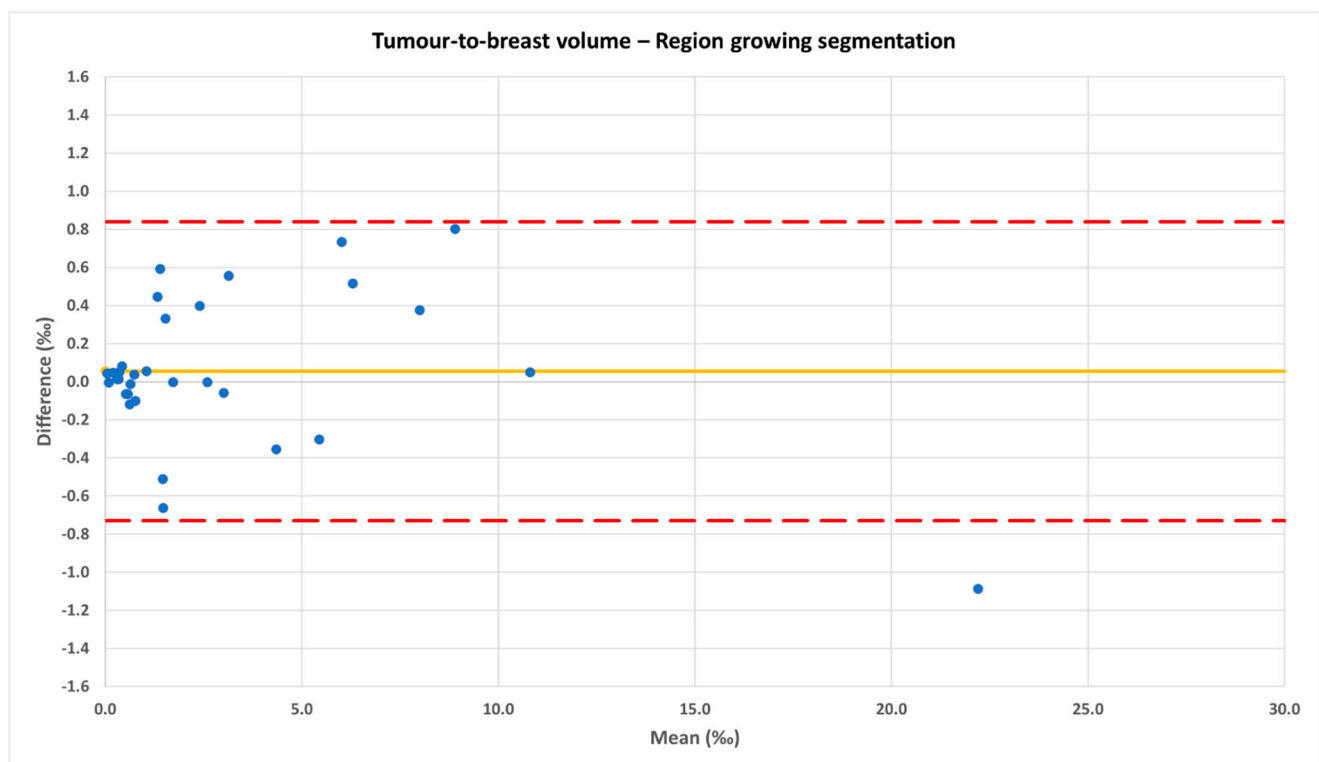
**Table S2.** Comparison of segmentation times obtained by applying both manual segmentation and region growing segmentation to the subset of 32 patients with 32 unifocal lesions.

Tumour Volume Segmentation Time	Reader 1	Reader 2	Wilcoxon Test $p$ Value
Manual method (IQR)	124 s (86–158 s)	138 s (92–198 s)	0.905
Region growing method (IQR)	33 s (25–46 s)	32 s (25–49 s)	0.999
<b>Wilcoxon test <math>p</math> value</b>	<b>&lt; 0.001</b>	<b>&lt; 0.001</b>	

IQR, interquartile range.



**Figure S1.** Bland–Altman plot for interobserver reproducibility of region growing segmentation of tumour volume. Coefficient of reproducibility: 0.36 cm<sup>3</sup>. Bias: 0.02 cm<sup>3</sup> bias. Reproducibility: 83%.



**Figure S2.** Bland–Altman plot for interobserver reproducibility of tumour-to-breast volume ratio obtained with region growing segmentation of tumour volume. Coefficient of reproducibility: 0.78 cm<sup>3</sup>. Bias: 0.06 cm<sup>3</sup> bias. Reproducibility: 75%.