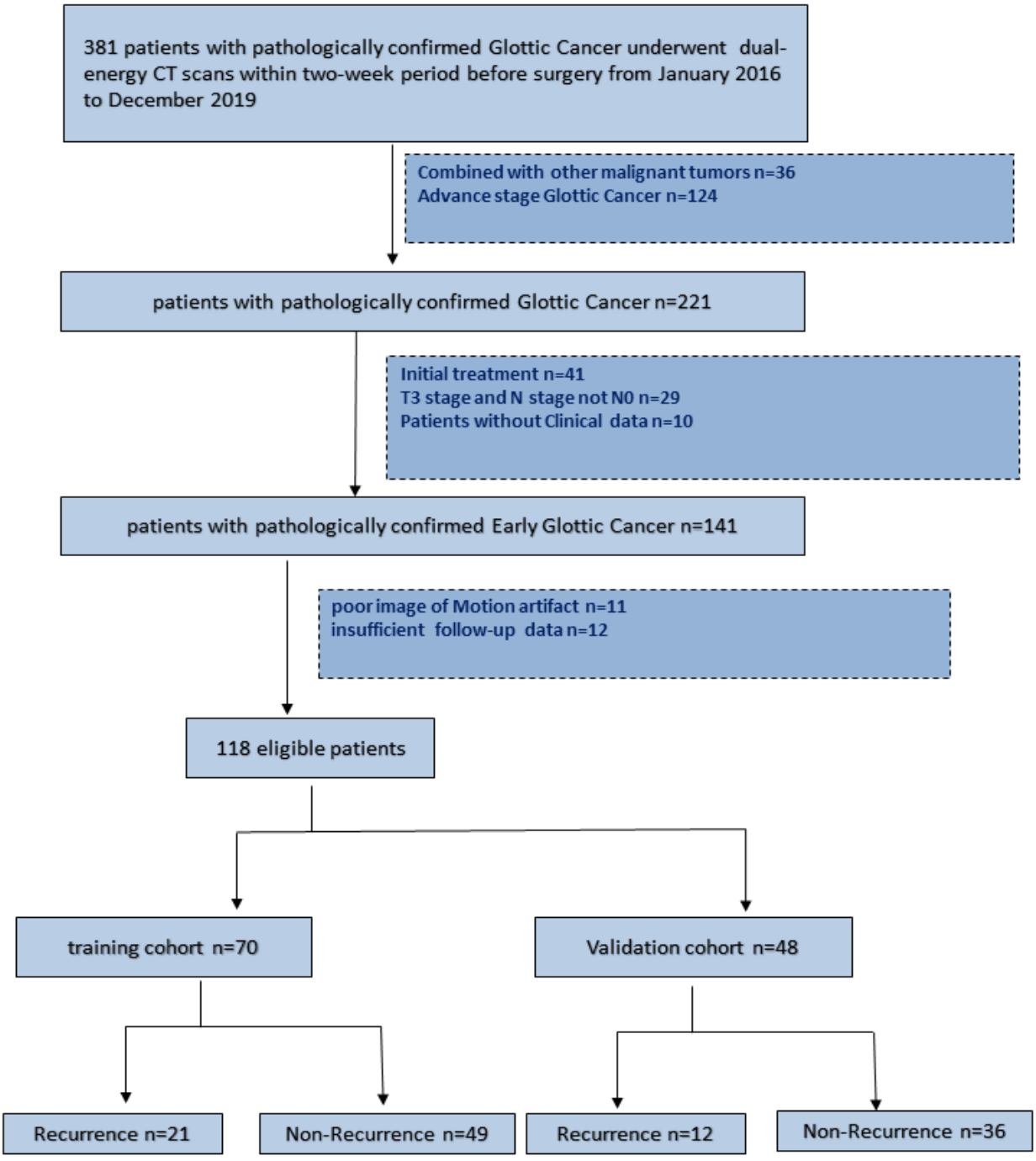

Figure S1. Enrollment Flowchart of patients with EGC in this study. EGC: Early glottic cancer. CT, computed tomography.

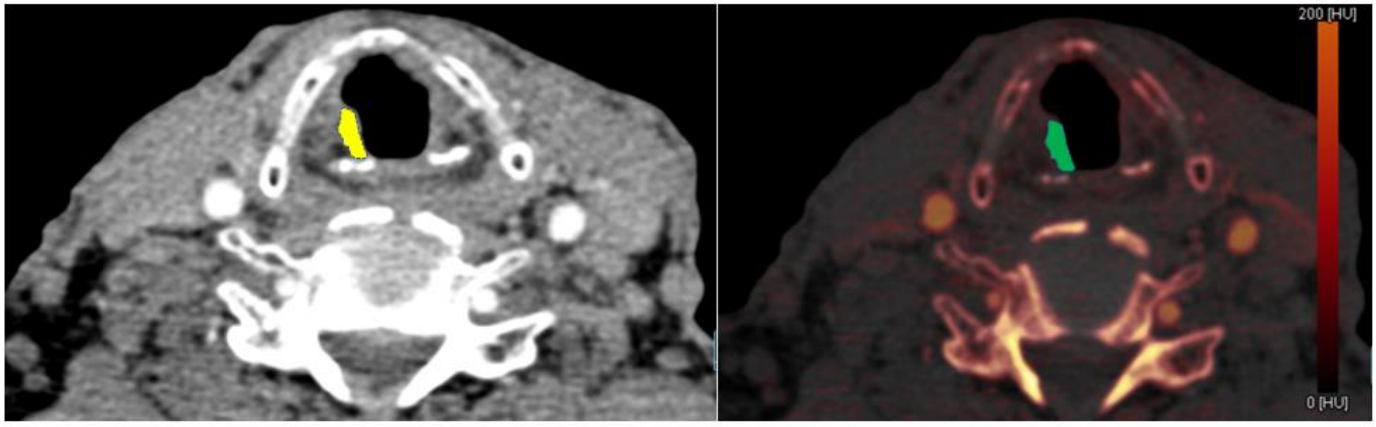

Figure S2. The tumor segmentation of a patient larger than 1cm. Yellow region, the segmented tumors in VP images; green region, the segmented in iodine maps.

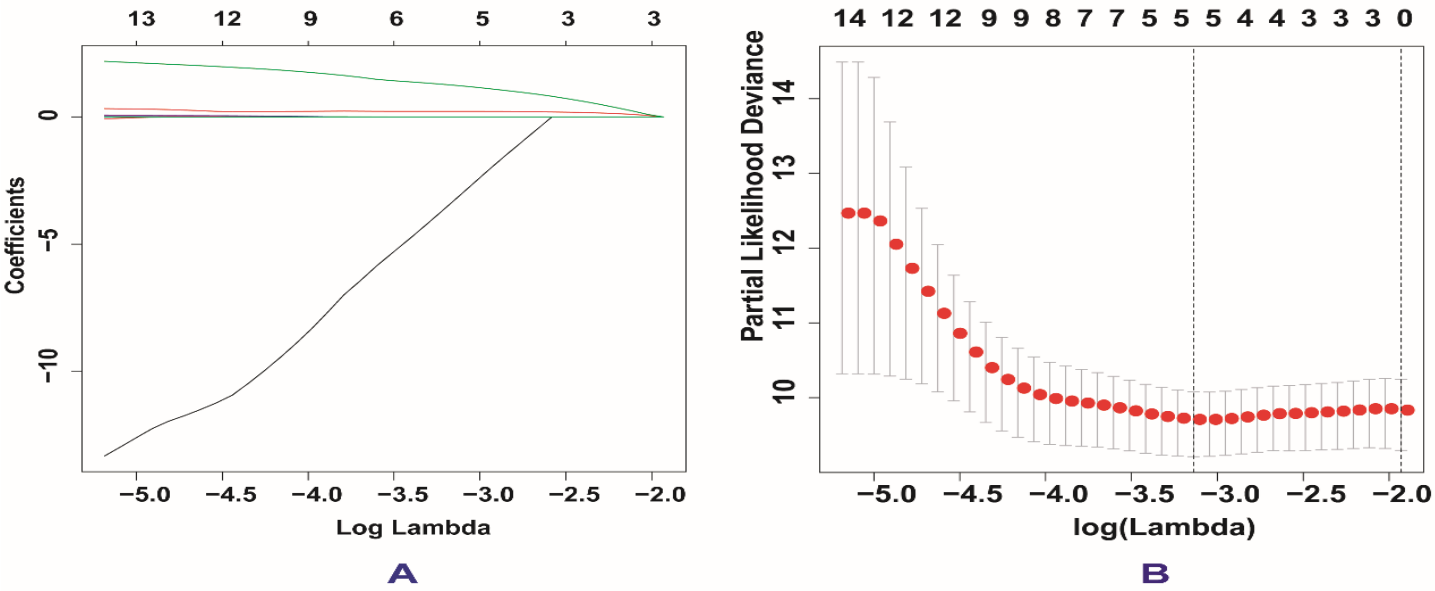

Figure S3. (A) Coefficient profile plot, shrinking the coefficients of radiomic features to 0 to select key features. (B) The tuning parameter (λ) was obtained by the least absolute shrinkage and selection operator (LASSO) model with 10-fold cross-validation through standard error of the minimum criteria. Finally 5 significant features were selected to constructed radiomic risk model (original glcm Cluster Shade, original glcm MCC, wavelet glcm Cluster Shade, HHH glszm Large Area Low Gray Level Emphasis, HHH ngtdm Busyness).

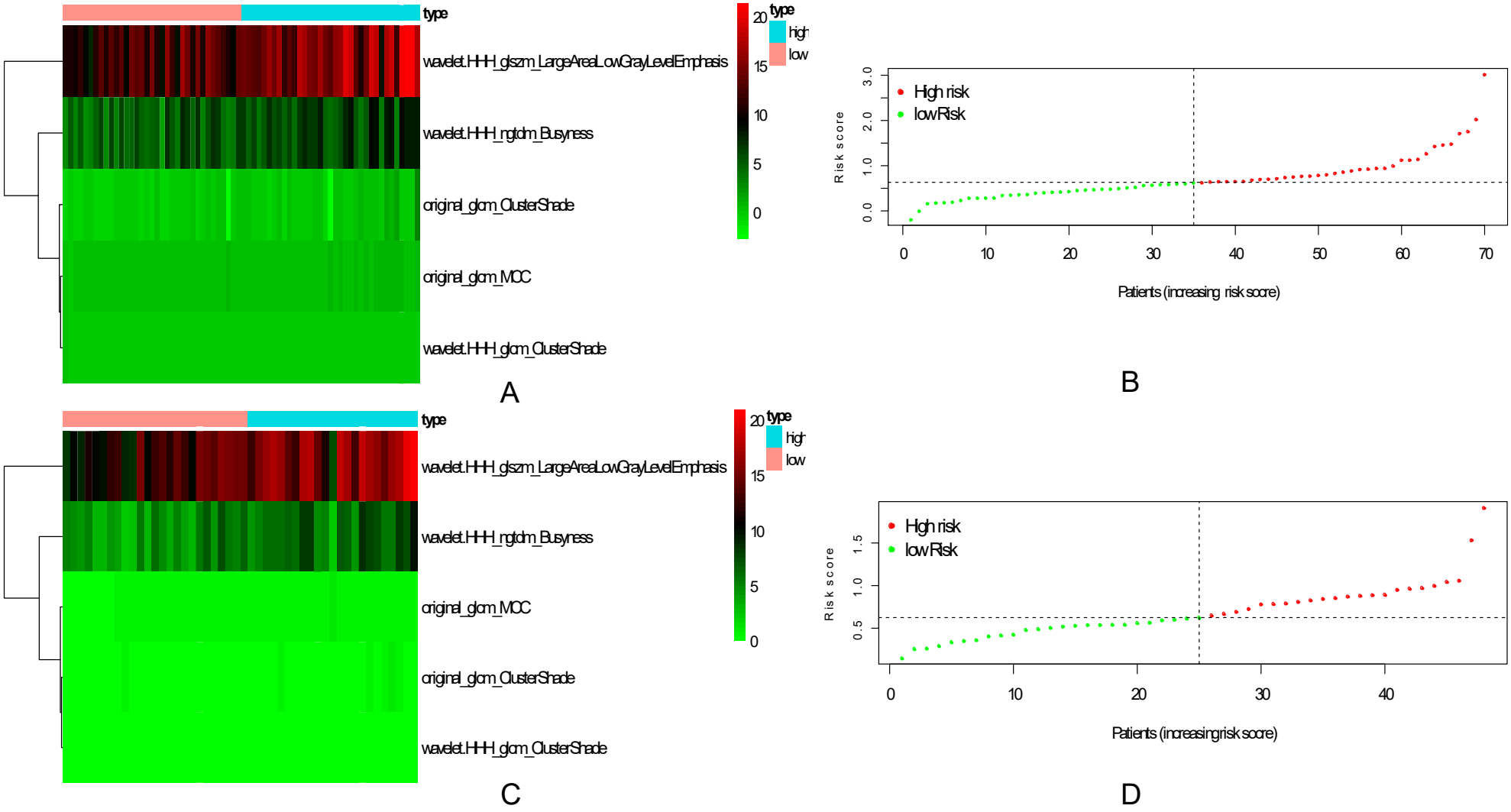

Figure S4 Eligible radiomic features and distributions of risk score

(A-B) Heatmap showing the 5 eligible radiomic features and distributions of risk score in the train cohort, the blue dot represents patients who are predicted with lower risk and the red dot represents patients with higher risk. (C-D) Heatmap showing the 5 eligible radiomic features and distributions of risk score in the validation cohort.

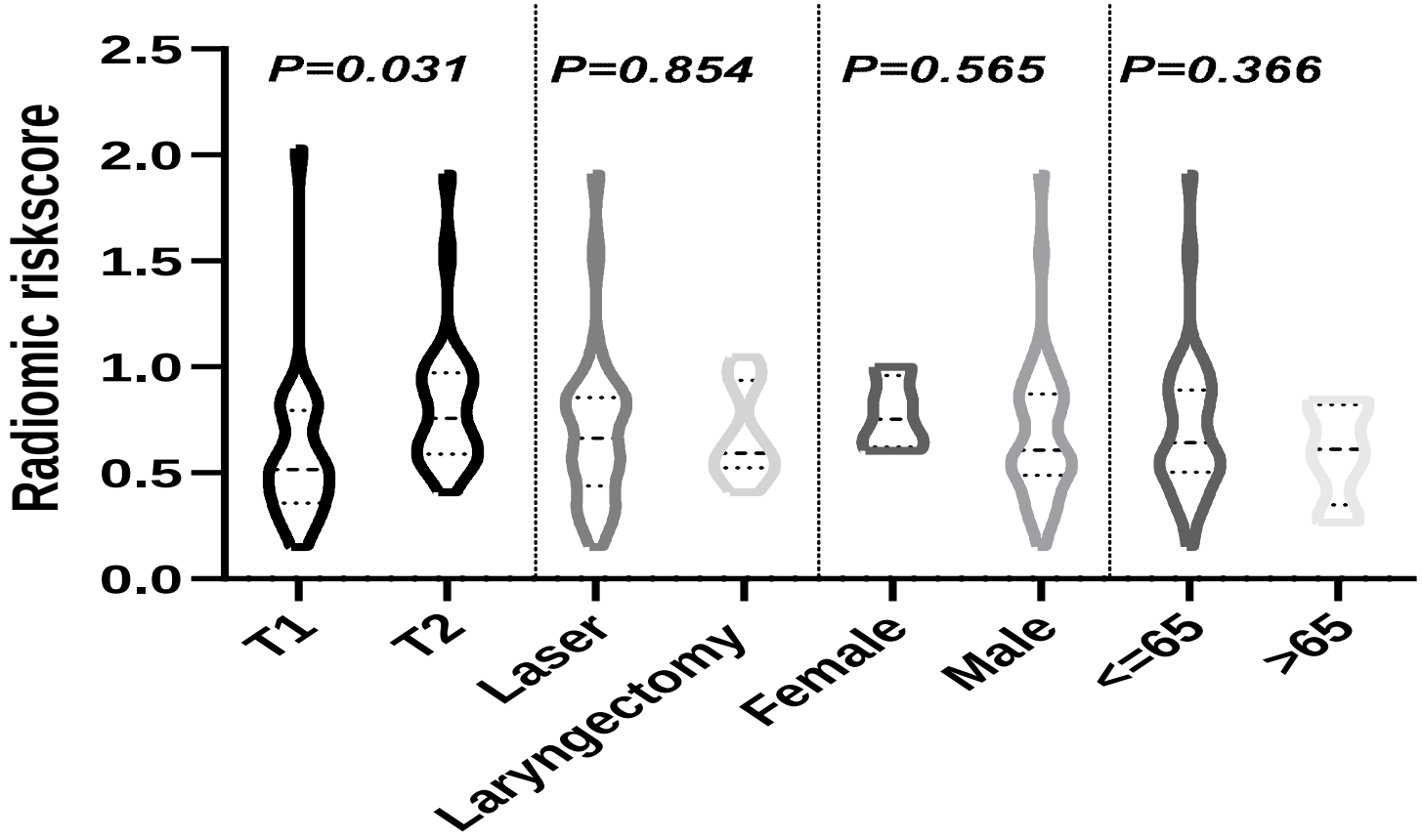

Figure S5 Difference between the radiomic risk score (RRS) and clinical characteristics in validation set.

Difference between the risk score and T stage in validation set, T2 stage significantly higher than patients with T1 stage(p=0.03). No significant statistics difference of RRS was found between Gender, Age and Therapy groups.