A Radiomics Nomogram Model to Preoperatively Predict Histologic Grade in Pancreatic Neuroendocrine Tumors
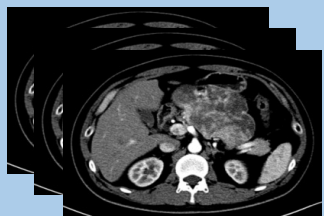
Contrast-Enhanced CT
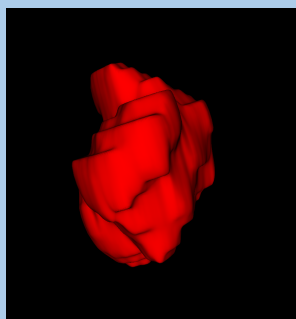
Training Dataset
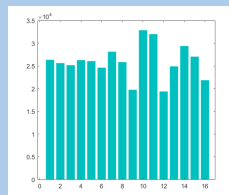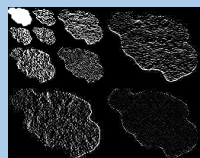
Tumor Segmentation

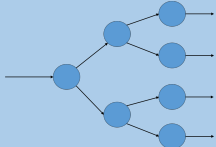Tumor Delineation
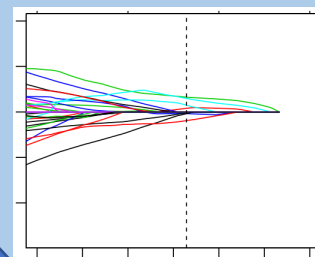
Tumor Volume
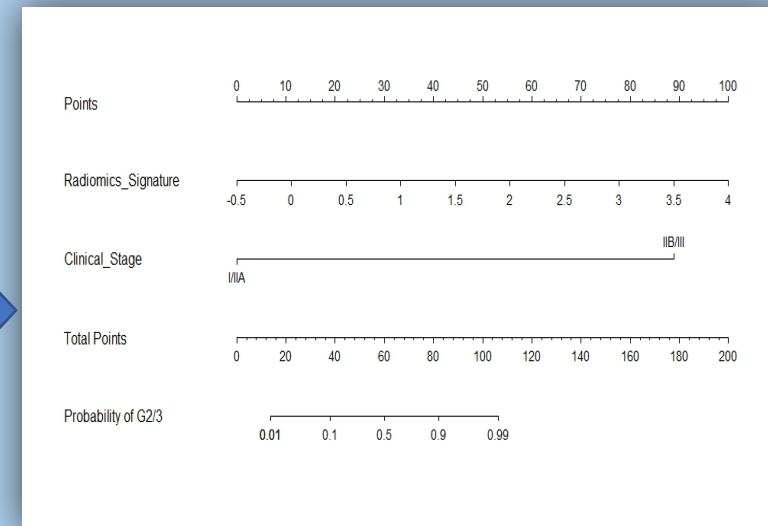
Feature Extraction

Histogram Features

Texture Features

Wavelet Features

Selection & Analysis

Clinical Factors

Radiomics Nomogram

Presenting Author:
Pengfei Yang

Session Title:
Computed Tomography I
Date:
07/31/2018
Session Time:
04:30 - 06:00PM

In our study, a radiomics nomogram model incorporates the radiomics signature and tumor clinical stage was constructed. The proposed model was used to preoperatively predict the pathological grade of pNETs (Grade 1 versus Grade 2/3), showing good discriminative performance in both training and independent validation set. The combined nomogram model also demonstrated good predictive prognosis for pNETs after surgery. The study provides a noninvasive preoperative prediction model which can be used to evaluate the probability of having pNETs Grade 2/3 and a prognostic biomarker for pNETs. It is potentially a powerful tool to the personalized preoperative evaluation.

Validation

Validation Dataset

AUC = 0.891 (0.772-0.961)
P < 0.001

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