

## The Correlation between CT Characteristics of Non-small Lung Cancer and the Performance of 18F-FDG PET and the Expression of Glut1 Protein

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
### 摘要

Background and objective Glut1 is the main carrier which intervenes the glucose uptake of cell, and the expression of Glut1 was positively correlated to the uptake of FDG. The aim of this study is to select the CT characteristics and clinicopathological parameters which can reflect the levels of glucose metabolism of human non-small lung cancer (NSLC). Methods Thirty-three cases of the NSLC (squamous carcinoma 11 cases and adenocarcinoma 22 cases) have undergone the scanning of FDG PET/CT before operation. The tumor pathological classification, degree of differentiation and lymph node metastasis were collected. The CT characteristics which included the diameter, deep lobulation, thin and short spiculation, spinous protuberance, cavity sign, vessel convergence sign and pleural retraction sign were described. Tracer uptake of suspected lesions was assessed by visual assessment and quantitatively by the maximum standardized uptake values (SUVmax). The expression of Glut1 which were examined by means of SP immunohistochemical technique was also analyzed. Results The positive rate of Glut1 was 66.67% (squamous carcinoma was 90.91% and adenocarcinoma was 54.55%). The positive rate of Glut1 and SUVmax of squamous carcinoma were significant higher than adenocarcinoma (Pbilateral=0.037, Punilateral=0.045). Through visual assessment and SUVmax, the uptake and the positive rate of Glut1 which size  $\geq 2$  cm were higher than the size  $< 2$  cm (Pbilateral=0.002, Punilateral=0.001, Punilateral=0.049). The uptake intense of FDG was related to the thin and short spiculation through visual assessment (Pbilateral=0.006). Conclusion The study suggested that the levels of glucose metabolism of squamous carcinoma higher than adenocarcinoma, the diameter upper than 2 cm and the thin and short speculation were higher.


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
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