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MEETING ABSTRACT Open Access

The relationship between the malignancy grade of lung adenocarcinoma with micropapillary pattern and the findings of positron emission tomography

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Background/Introduction

The survival rates are not always high after the complete resection even if early stage lung adenocarcinoma. Micropapillary pattern (MPP) was one of prognostic factors in such cancer.

Aims/Objectives

This study aimed to investigate whether preoperative maximum standard uptake value (SUVmax) on positron emission tomography/computed tomography (PET/CT) could indicate early stage lung adenocarcinoma with MPP.

Method

Total 347 consecutive patients with clinical stage IA lung adenocarcinoma that were treated by complete resection were retrospectively examined. We defined MPP- positive as accounting for 5 % or more of the entire tumor.

Results

Forty eight (14%) and 299 (86%) patients were MPP-positive and negative, respectively. There were no significant differences between both groups in age (P = 0.369), gender (P = 0.059), or tumour size (P = 0.437). However, SUVmax on PET/CT were significantly higher in MPP-positive, than negative group (3.02 ± 2.34 vs. 2.19 ± 2.45, P = 0.029, respectively). In addition, lymphatic and vascular invasion as well as lymph node metastasis were more frequent in the MPP-positive, than negative group (P = 0.003, P = 0.029, and P = 0.002, respectively). Five-year recurrence free survival (RFS) rates were significantly lower in the MPP-positive, than negative group (69.7% vs. 89.3%, P < 0.001). Multivariate analysis for RFS showed that MPP, lymphatic and vascular invasion were independent poor prognostic factors (P = 0.048, P = 0.003, P = 0.002, respectively).

Discussion/Conclusion

The presence (≤5%) of MPP in early stage lung adenocarcinoma should be considered a distinct subtype with a high risk of recurrence and a poor prognosis. In addition, preoperative PET/CT was useful for predicting whether tumours harboured MPP or not.

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