

MEETING ABSTRACT

Open Access

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

Norifumi Tsubokawa¹, Takahiro Mimae², Yasuhiro Tsutani², Takeshi Mimura², Yoshihiro Miyata², Morihito Okada^{2*}

From World Society of Cardiothoracic Surgeons 25th Anniversary Congress, Edinburgh
Edinburgh, UK. 19-22 September 2015

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 ($\leq 5\%$) 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.

Authors' details

¹Department of Respiratory Surgery, National Hospital Organization Kure Medical Centre and Chugoku Cancer Centre, Kure, Hiroshima, 737-002, Japan. ²Department of Surgical Oncology, Hiroshima University, Hiroshima, 734-8551, Japan.

Published: 16 December 2015

doi:10.1186/1749-8090-10-S1-A152

Cite this article as: Tsubokawa et al.: The relationship between the malignancy grade of lung adenocarcinoma with micropapillary pattern and the findings of positron emission tomography. *Journal of Cardiothoracic Surgery* 2015 **10**(Suppl 1):A152.

²Department of Surgical Oncology, Hiroshima University, Hiroshima, 734-8551, Japan

Full list of author information is available at the end of the article