

## 폐의 미세유두상 패턴을 보이는 선암종의 기관지세척 세포소견 - 짧은 증례보고 -

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### Pulmonary Adenocarcinoma with a Micropapillary Pattern Detected by Bronchial Washing - A Brief Case Report -

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Adenocarcinomas with micropapillary patterns are generally aggressive and show lymphotropism. Only a few reports on pulmonary adenocarcinoma with micropapillary patterns have described cytologic findings. A 70-year-old Korean woman was admitted to the hospital because of intermittent dry cough and chest pain. Cytology after bronchial washing showed neoplastic cells in small, angulated, cohesive clusters consisting of 3-20 cells without a fibrovascular core. The resected right middle lobe showed a tumor occupying almost the entire lobe. Histologically, about 90% of neoplastic cells proliferated with micropapillary morphology in the background of bronchioloalveolar carcinoma. Cytologic smears of a bronchial washing showing tumor cells in small, cohesive clusters without a fibrovascular core may indicate an adenocarcinoma with micropapillary pattern.

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**Key Words :** Lung, Micropapillary, Cytology

## INTRODUCTION

Pulmonary adenocarcinoma with micropapillary pattern has been first reported by Amin et al. in 2002.<sup>1</sup> Subsequently, several reports on pulmonary adenocarcinoma with micropapillary pattern have been presented, a few of which described cytologic findings.<sup>2-4</sup> However, there is no report on the cytologic or histologic findings of pulmonary adenocarcinoma with micropapillary pattern in Korea. We present such a case detected by bronchial washing.

## CASE

A 70-year-old Korean woman was admitted to the hospital because of an intermittent dry cough and chest pain for about 6 months. Her medical and family history did not suggest any remarkable disease. She was a housewife and non-smoker. The initial laboratory study was normal. Computerized tomography (CT) showed segmental consolidation in the right middle lobe of the lung, which was suggestive of organizing pneumonia. In a sleeping bronchoscopy, no endobronchial lesion was noted. The cytology via a bronchial washing was

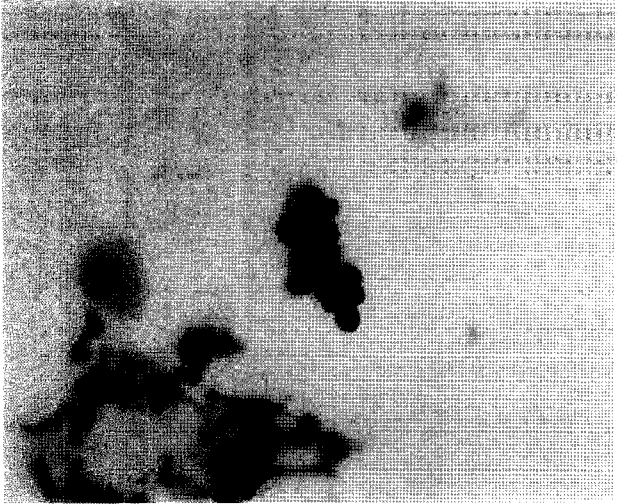


Fig. 1. Cytologic findings of bronchial washing. A cohesive cluster of neoplastic cells, consisting of less than 20 cells without fibrovascular core and resulting in micropapillary configuration, is observed (Papanicolaou stain).

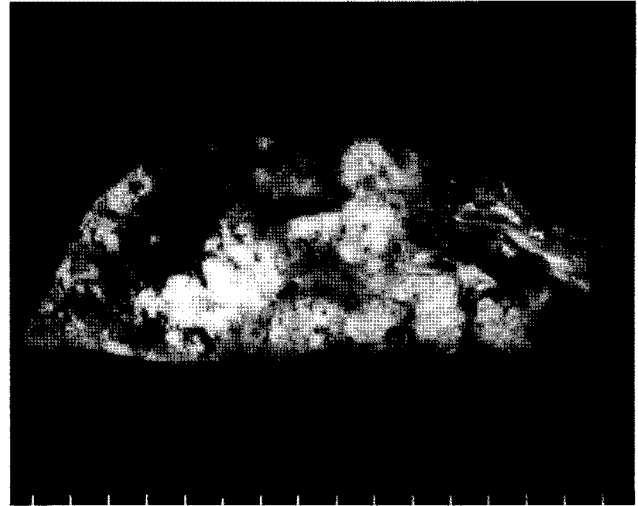


Fig. 2. Gross findings. Almost entire lobe was occupied by a tumor. There is partially torn visceral pleura in the right lower portion.

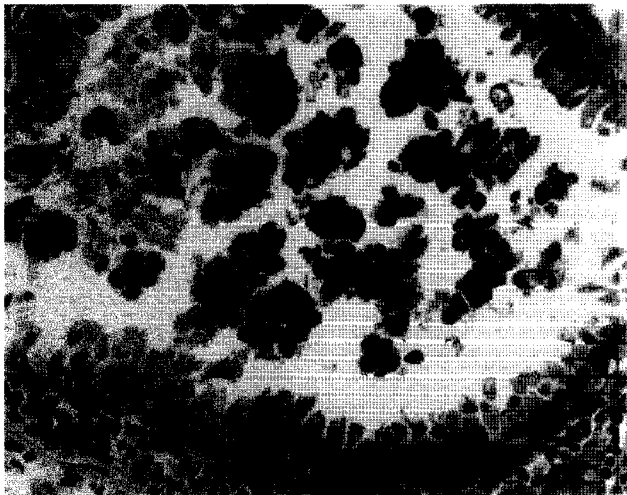


Fig. 3. Histologic findings. Most neoplastic cells proliferate and form small nests without a fibrovascular core in the background of bronchioloalveolar carcinoma (H&E).

submitted, fixed in 95% alcohol, and stained using the Papanicolaou technique. It showed atypical single cells or small, angulated, cohesive clusters consisting of 3-20 cells without a fibrovascular core (Fig. 1). We interpreted this pattern as a micropapillary configuration. Nuclei were generally large, and the nuclear margin was thick. Nuclear chromatin was coarse, and nucleoli were prominent. The tumor cells showed small to moderate amounts of cytoplasm, giving a high nucleus-to-cytoplasm ratio, but with no intracytoplasmic lumen. She

underwent a right middle lobectomy and lymph node dissection. The visceral pleura was focally removed during operation, and the resected right middle lobe measured  $8 \times 8 \times 3$  cm and weighed 55 gm. Almost the entire lobe was occupied by a tumor (Fig. 2). Histologically, about 90% of the neoplastic cells proliferated and formed small nests without a fibrovascular core in the background of bronchioloalveolar carcinoma (Fig. 3). The tumor cell nests were morphologically similar to the neoplastic cell clusters in the smear of the bronchial washing. There was lymphatic tumor invasion, but no metastatic tumor was found in 47 regional lymph nodes.

## DISCUSSION

Adenocarcinomas with micropapillary patterns can occur in various anatomic sites, and was first reported by Amin et al. in 2002.<sup>1</sup> Although, we did not find intrapulmonary metastasis to other lobes or metastasis to lymph nodes and pleural invasion could not be evaluated because the visceral pleura was focally removed, adenocarcinomas with micropapillary patterns are generally aggressive and show lymphotropism, Miyoshi et

al.<sup>5</sup> reviewed 344 cases of lung adenocarcinoma with or without micropapillary patterns and revealed that the following items were significantly more frequent in the micropapillary pattern-positive group: metastasis to lymph nodes, pleural invasion, intrapulmonary metastasis, and nonsmoking status. Cytologic smears of a bronchial washing showing tumor cells in small, cohesive clusters without a fibrovascular core may indicate an adenocarcinoma with micropapillary pattern, which requires evaluation for intrapulmonary metastasis, pleural invasion, or metastasis to the lymph nodes.

The important differential diagnoses of pulmonary adenocarcinoma with micropapillary patterns detected by bronchial washing include papillary adenocarcinoma and bronchioloalveolar carcinoma. Cyto-architecturally, the most important feature in differential diagnosis between papillary adenocarcinoma and adenocarcinoma with a micropapillary pattern is the presence of central fibrovascular cores in papillary adenocarcinomas, which are absent in adenocarcinomas with micropapillary patterns. Larger, monolayered sheets of tumor cells with bland nuclei and inconspicuous nucle-

oli, which may be seen in bronchioloalveolar carcinoma, are helpful in differential diagnosis from adenocarcinoma with micropapillary patterns.

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