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Case report

Promising effect of chemotherapy with bevacizumab for patients with pulmonary pleomorphic carcinoma: Two case reports and a literature review

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ABSTRACT

Pulmonary pleomorphic carcinoma (PPC) is a rare disease with a poor prognosis. Chemotherapy regimens used to date have not been effective against PPC; thus, a new treatment strategy is needed. Here, we report two patients with PPC who were effectively treated with a chemotherapy regimen including bevacizumab. Both patients received carboplatin/paclitaxel/bevacizumab and showed a partial response. As patients with PPC have been reported to show high expression of vascular endothelial growth factor (VEGF), the tumor specimens from the presented patients also showed high expression of VEGF. Therefore, a chemotherapy regimen including a VEGF inhibitor such as bevacizumab is a promising treatment for patients with PPC

1. Introduction

Pulmonary pleomorphic carcinoma (PPC) is a rare disease that accounts for <1% of all lung tumors [1]. Compared with other non-small cell lung cancers, it has a low sensitivity to chemotherapy and a poor prognosis [2]. Therefore, a new treatment strategy is needed. Recently, high expression of vascular endothelial growth factor (VEGF) has been reported in PPC as compared to other non-small cell lung cancers [3]. Therefore, VEGF inhibitors such as bevacizumab may have a positive effect on patients with PPC. Here, we report two patients with PPC who were effectively treated with a bevacizumab-containing regimen.

Abbreviations: PPC, pulmonary pleomorphic carcinoma; CT, computed tomography; VEGF, vascular endothelial growth factor; EGFR, epidermal growth factor receptor

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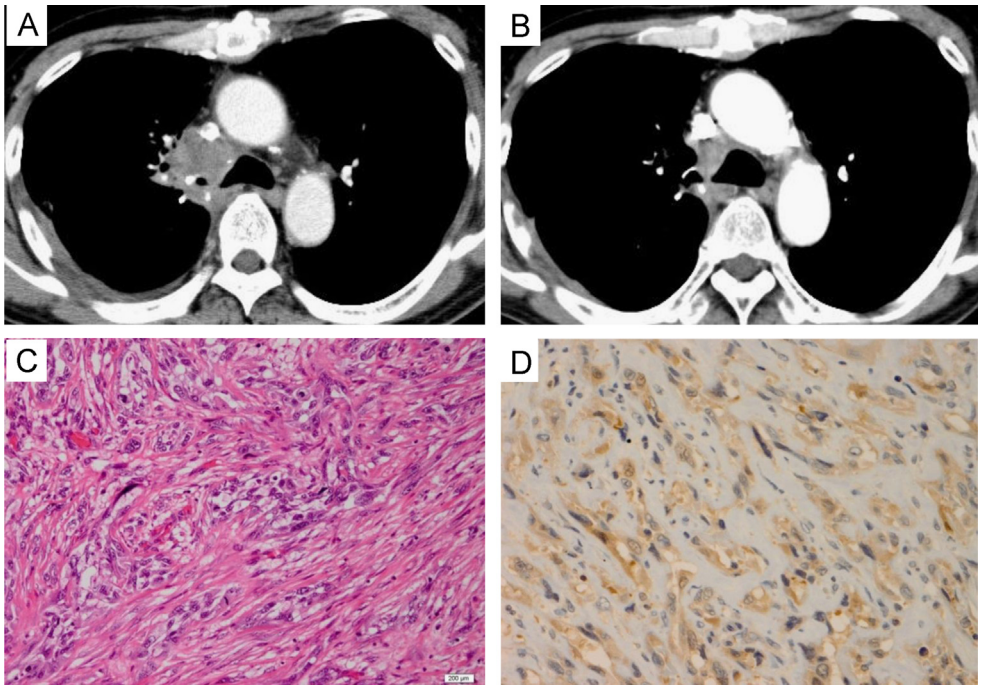

Fig. 1 – Chest CT imaging and histopathological finding of the tumor in case 1. Panel A shows post-operational recurrences with mediastinal lymphadenopathy, and panel B shows the results after four cycles of chemotherapy with bevacizumab. Panel C shows that the tumor consists of spindle cell, giant cell, and adenocarcinoma (hematoxylin–eosin staining, ×200). Panel D, immunohistochemical analysis shows that VEGF is expressed in both the epithelial and mesenchymal components of the tumor (×400). VEGF, vascular endothelial growth factor.

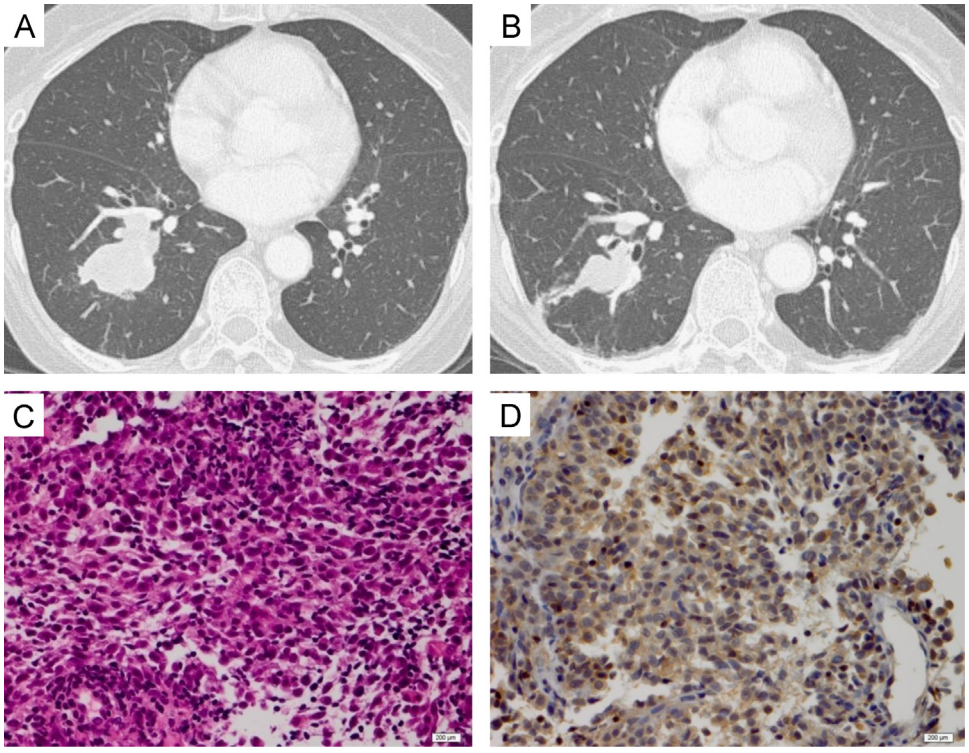

Fig. 2 – Chest CT imaging and histopathological finding of the tumor in case 2. Panel A shows the results of computed tomography at baseline, and panel B shows the results after four cycles of chemotherapy with bevacizumab. Panel C shows that the tumor consists of spindle cell and partially adenocarcinoma (hematoxylin–eosin staining, ×200). Panel D, immunohistochemical analysis shows positive staining of VEGF both in the epithelial and mesenchymal components (×400). VEGF, vascular endothelial growth factor.