

Recurrence of pulmonary thromboembolism during anticoagulation in lung cancer patient

Division of Pulmonology and Critical Care Medicine, Department of Internal Medicine, College of Medicine, Chungnam National University, Daejeon, Korea

*Da Hyun Kang, Se Yeon Park, Sung Soo Jung, Ju Ock Kim, Chae Uk Chung

Introduction: Patients with cancer have higher risk of thromboembolism as compared with normal subjects. Most guidelines recommend low-molecular-weight heparins or vitamin K antagonists, but they have several limitations. New oral anticoagulants (NOACs) are another treatment option in preventing thromboembolism, but effectiveness for patients with cancer is not clear. We describe a patient with lung cancer and pulmonary thromboembolism treated with NOACs that was exacerbated by switch to vitamin K antagonists. **Case:** A 63-year-old female was diagnosed with lung adenocarcinoma as T4N3M1a stage. She was initially presented with multifocal endoluminal filling defects in interlobar and segmental arteries in BLL, diagnosed as pulmonary thromboembolism (Fig. 1A). She was treated with rivaroxaban, direct factor Xa inhibitor for thromboembolism, and gefitinib for lung cancer. Chest CT after 3 months showed that the thromboembolism was markedly improved (Fig. 1B). Because of cost, we substituted warfarin for rivaroxaban after 6 months. Unfortunately, switch to warfarin resulted in recurrence of pulmonary thromboembolism in 3 months despite of high level of INR (Fig. 1C). She received the combination therapy of unfractionated heparin with warfarin in acute phase, and prescribed rivaroxaban again, 5 days later. After 2 months, thromboembolism was resolved (Fig. 1D). **Conclusions:** This case report suggests that rivaroxaban, one of NOACs, may be feasible anti-coagulation therapy for pulmonary thromboembolism with lung cancer.



Metachronous primary carcinoid tumor and spindle cell carcinoma of the lung: A case report

¹Chungnam National University Hospital, Department of Internal medicine, Division of Pulmonology, ²Chungnam National University Hospital, Department of pathology

*Min Ji Cho¹, Choong Sik Lee², Sung Soo Jung¹, Ju Ock Kim¹, Chae Uk Chung¹

A 61-year-old man was admitted for a left bronchial mass. Chest computed tomography (CT) and positron-emission tomography-computed tomography showed a tumor of preoperative stage T1aN0M0. Left lingular segmentectomy was performed, and histological findings indicated carcinoid tumor. Six months later, a left upper lobe mass invading the chest wall was detected on follow-up chest CT (Fig. 1A). On PET-CT examination, a hypermetabolic lesion was found in the left upper lobe directly invading the chest wall with no distant metastasis (Fig. 1B). Thus the clinical stage was found to be T3N0M0, and then left upper lobectomy was performed. Microscopic examination revealed pleomorphic spindle-shaped tumor cells and in IHC examination showed positive results for vimentin and CK7 but negative results for calretinin (Fig. 1C, D, E, F). The pathologist considered it difficult to definitely determine whether the tumor was spindle cell carcinoma or synovial sarcoma based solely on the results of the pathologic examination. Radiologic findings, however, indicated that the tumor was spindle cell carcinoma, because primary synovial sarcomas of the lung arise from the pleura, but in this case, the mass did not seem to be from pleura. Our patient newly developed an aggressive tumor within 6 months of resection of a carcinoid tumor. From our experience, we believe that follow-up imaging studies are absolutely essential even in cases in which indolent tumors have been resected, and the possibility of metachronous tumors appearing at any time must be considered.

