

中文題目：末期肺癌出現的極高血清前降鈣素擬似嚴重細菌性感染 — 案例報告及文獻回顧

英文題目：Extreme High Serum Procalcitonin in An Advanced Lung Cancer Patients Mimicking Severe Bacterial Infection.

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Introduction: Serum procalcitonin is regarded as a very specific biomarker of bacterial infection than C-reactive protein and leukocytes in daily practice clinically, especially in situation that neutropenic fever developed in lung cancer patients who received cytotoxic chemotherapy. Serum procalcitonin had been validated to guide antibiotics treatment in many infectious guidelines. However, elevation of procalcitonin level not only in a severe bacterial infection but also present in some advanced lung cancer patients and the serum procalcitonin level may elevate gradually while tumor progressed. We presented the rare and interesting case and make a literature review.

Case presentation: A 64-year-old male with a history of coronary artery disease and hypertension presented with progressive low back and pelvic bone pain in recent months. Chest computed tomography disclosed a bronchogenic tumor in the left upper lobe of the lung and lung adenocarcinoma was confirmed via endobronchial biopsy. Fever up to 40 C developed during admission, accompanied by marked leukocytosis, white blood cell(WBC) counts up to 21.48x1000/ μ L and elevated C-reactive protein(CRP) level (33.44ng/mL), urinary tract infection was formulated on the basis of presence of pyuria and compatible laboratory findings. With the empiric antimicrobial therapy, his clinical presentations became amelioration but persistent low-grade fever was observed afterward. In order to distinguish infectious fever from tumor fever, serum procalcitonin was checked and it revealed an extreme and unexpected high procalcitonin (70.48 ng/mL) though serum CRP and WBC had been declined and no more leukocytosis. Since patients refused further chemotherapy, sequential serum procalcitonin had elevated gradually to a higher level (291.28 ng/mL) one month later meanwhile his lung cancer had been progressed with a larger primary lung mass and a new liver metastatic nodule.

Discussion:

Differentiating tumor-related fever from infectious fever could be a challenging task in the patients with active malignancy. Serum procalcitonin has been proposed as a biomarker that helps distinguish bacterial infection from other causes of infection or inflammation, especially for febrile neutropenic cancer patients. In addition, for

patients with cancer who presented fever without neutropenia, several studies affirmed the efficacy of procalcitonin in discriminating between tumor fever and blood stream infection. Although procalcitonin could be an indicator of bacterial infection, several studies demonstrated that procalcitonin might elevate in patients with lung cancer, especially in lung cancer with a neuroendocrine component or liver metastases, which results in misleading diagnosis of severe bacterial infection. Herein , we proposed a rare metastatic lung adenocarcinoma case displayed an extreme high serum procalcitonin level which elevated gradually in accordance with disease progression in the absence of bacterial infection.