

中文題目：轉移性乳癌患者經 Everolimus 治療後引起的再活動性肺結核 - 一個罕見的個案報告

英文題目：Everolimus-induced mycobacterium tuberculosis (TB) reactivation in a patient with metastatic breast invasive carcinoma - A Rare Case Report

作者：謝絮羽¹ 黃書恆² 杜政勳³ 唐世豪³ 王慧晶³ 卓士峯³ 劉益昌³ 蕭慧樺

服務單位：¹ 高雄醫學大學附設醫院內科部，² 高雄市立大同醫院內科，³ 高雄醫學大學附設醫院血液腫瘤內科

Abstract

Everolimus is a mTOR (mammalian target of rapamycin) inhibitor and has been approved by the US Food and Drug Administration (FDA) to treat patients with renal cell carcinoma, breast cancer and neuroendocrine tumor (NETs). Increasing risk of reactivation of latent tuberculosis infection in patients with metastatic renal cell carcinoma was reported before. Here, we present the case of an everolimus-induced mycobacterium tuberculosis (TB) reactivation in a patient with metastatic breast invasive carcinoma. Our case implied that treatment with everolimus might give rise to the reactivation of TB and should be deliberated cautiously in these kinds of patients.

Introduction

Everolimus is a mTOR (mammalian target of rapamycin) inhibitor and acts as proliferation signal inhibitor and also an immunosuppressive agent. It has been approved by the US Food and Drug Administration (FDA) to treat patients with renal cell carcinoma, breast cancer and neuroendocrine tumor (NETs). It works through inhibiting PI3K-mTOR-AKT pathway to block cell proliferation and induce apoptosis and autophagy. Side effects of everolimus include oral ulcer, fatigue, infection, skin rash. Recently, a few cases of everolimus-induced pulmonary injury have been reported and also a risk of reactivation of latent tuberculosis infection in patients with metastatic renal cell carcinoma. We present the case of an everolimus-induced mycobacterium tuberculosis (TB) reactivation in a patient with metastatic breast invasive carcinoma.

Case report

A 53-year-old woman is a case of stage IV metastatic left breast invasive carcinoma (estrogen receptor (+), progesterone receptor (+), Her2 (-)), with multiple lung, bone, liver metastasis diagnosed in Dec 2014. She had received multiple courses of chemotherapy from Dec. 2014 to Mar. 2017, but with progression of disease later on. She switched to everolimus/exemestane combination therapy since Aug. 2017. However, she suffered from fever, cough and dyspnea in the late Sep. 2017 and the chest X-ray(CXR) revealed bilateral pleural effusion with increasing infiltration at right lower lung. The Chest CT revealed metastases of disease with bilateral pneumonia and pleural effusions. Pleural effusion analysis revealed exudative with high lactic dehydrogenase level (LDH = 1043 IU/L) without tumor cells. Effusion culture turned to mycobacterium tuberculosis complex one month later. Though antibiotics were prescribed, she had persistent fever and dyspnea and then expired due to progression of disease in Oct. 2017.

Discussion

At present, novel agents, such as everolimus, is promising on many kinds of malignancies, however, reactivation of opportunistic infection, such as TB, had been reported. In endemic TB areas, the incidence of latent tuberculosis infection(LTBI) reactivation is much higher in people with compromised immune systems and also in patients receiving chemo/immune-therapy. Though the actual mechanism is unclear, novel agents also increase the risks of TB. Our case implied that treatment with everolimus might give rise to the reactivation of TB and should be deliberated cautiously in these kinds of patients.