中文題目：MDA5 抗體陽性之皮肌炎患者表現快速進行間質性肺病：個案報告

英文題目：anti-Melanoma Differentiation-Associated gene 5 antibody-positive Dermatomyositis with Rapidly Progressive Interstitial Lung Disease- A Case Report

作　　者：王品逸 [1], 吳正欽 [2]

服務單位：[1] 高雄醫學大學附設醫院內科部, [2] 高雄醫學大學附設醫院過敏免疫風濕內科

Introduction:

Dermatomyositis (DM) and polymyositis (PM) are classified as idiopathic inflammatory myopathies. Among patients with DM or PM, interstitial lung disease (ILD) is a major cause of morbidity and mortality. Rapidly progressive interstitial lung disease (RP-ILD) was noted particularly in patients with clinically amyopathic dermatomyositis (CADM). We present a case of anti-melanoma differentiation-associated gene 5 (MDA5) antibody-associated RP-ILD in a patient with CADM successfully treated with a combination of corticoids, cyclophosphamide and Rituximab and tacrolimus.

Case presentation:

A 49-year-old Taiwanese woman with type 2 diabetes mellitus (DM) presented at the emergency department with skin rash, arthralgia and dyspnea for days.

Initial physical examination revealed symmetrical arthritis of the knee joints, proximal interphalangeal joints (PIP) and metacarpophalangeal (MCP) joints. Erythematous papules of the extensor aspects of the PIP and MCP joints were noted. Erythematous patches and papules were also found over her face, neck and periungual area. There were inspiratory crackles in both lung bases.

The laboratory findings showed an elevation of inflammatory markers: C-reactive protein (CRP) of 204 mg/L and erythrocyte sedimentation rate (ESR) of 56 mm/hr. The serum level of creatine kinase was not elevated, which revealed at

120 IU/ml. In addition, an immunological study showed rheumatoid factor (RF), antinuclear antibodies (ANA), anti-DNA antibodies, antineutrophil cytoplasmic antibodies (ANCA), antiphospholipid antibodies (aPL) and anti-cyclic citrullinated peptides (aCCP) were negative. Serum complement factors were within normal levels. The HBsAg and Anti-HCV were negative. The patient had very bad dyspnea with compromised lung oxygenation revealing low level of P/F ratio(PaO2/FiO2 82.2). The thoracic CT revealed the presence of peripheral ground-glass opacities in the both lungs. High flow nasal cannula (HFNC) was applied. Piperacillin/tazobactam and Levofloxacin were also used for possible bacterial pneumonia.

Due to the characters of　rapidly progressive interstitial lung disease, a panel of myositis-specific and myositis-associated antibodies were done and revealed positive results (2+) at anti-MDA5 and anti-transcription intermediary factor 1γ (TIF1γ) antibodies. This panel also included anti-Mi 2, anti-NXP2, anti-SAE1, anti-Ku, anti-PM-Scl100, anti-PM-Scl75, anti-tRNA-synthetase (anti-Jo1, anti-PL7, anti-PL12, anti-OJ, anti-EJ), anti-SRP and anti-Ro52.

Based on the clinical suspicion of anti-MDA5 dermatomyositis with acute interstitial pneumonitis, high doses of methylprednisolone (MP) (three pulses of 1000 mg/day) followed by a tapering regimen (equivalent doses of prednisone starting at about 1 mg/kg) and 500 mg of cyclophosphamide were initiated. Besides, we added on Rituximab at total doses at 2000mg (0, 6, 7, 13 days after pluses therapy) and tacrolimus at a dose of 5mg with trough level at 8 ng/ml. The patient showed clinical improvement and was discharged with a daily dose of 50mg Cyclophosphamide and 5mg Tacrolimus.

Discussion and Conclusion:

DM and PM are idiopathic inflammatory myopathies, characterized by the shared features of proximal skeletal muscle weakness and evidence of muscle inflammation. DM, unlike PM, is associated with a variety of characteristic skin manifestations. CADM is a subgroup of DM representing patients with hypomyopathic and amyopathic DM. These patients have clinical cutaneous features of DM but no evidence of clinical myositis symptoms. They share similar comorbidities with “classic” DM patients, including interstitial lung disease and malignancy [1]. Some patients with CADM, especially those in eastern Asia, have been noted to develop RP-ILD, which is resistant to immunosuppressive treatment. Anti-MDA5 antibody (formerly known as anti-CADM-140 antibody) was found to be associated with RP-ILD and poor outcomes [2, 3]. However, the clinical outcome of this patient was good. Clinical improvement of RP-ILD with combination of Rituximab, pulse methylprednisolone, cyclophosphamide and tacrolimus. So H et al. also reported successful experience of four cases with Rituximab therapy in treating RP-ILD related to anti-MDA5 antibody [4].