P0736 Intravenous cyclophosphamide therapy for anti-IFN-gamma-associated Mycobacterium abscessus infection

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Background: Anti-interferon (IFN)-γ autoantibodies are increasingly recognized as a cause of adult-onset immunodeficiency (AOID) worldwide. They are susceptible with various intracellular pathogens especially non-tuberculous mycobacteria (NTM). Most of the patients had refractory clinical course despite receiving oral antimycobacterial therapy. Here we report the use of immunotherapy with pulse intravenous cyclophosphamide (IVCY) in patients who had progressive refractory Mycobacterium abscessus infection needed frequent hospitalization for parenteral antibiotic.

Materials/methods: All patients were seen at Srinagarind Hospital, Khon Kaen, Thailand. We included patients who were infected with M. abscessus had received > 3 courses of parenteral antibiotic within 12 months, and received pulse IVCY and prednisolone with tapering dose. The total duration was 2 years. Patients were monitored for their clinical and safety laboratory tests including IFN-γ Ab titer.

Results: There were 8 AOID who met the criteria and received pulse IVCY during January 2011- Dec 2015. All but two had co-infected with other opportunistic infections and the median time of NTM infection was 17 months before they received IVCY. One patient lost to follow up after 5 courses of IVCY and died 3 months later at home. The median IVCY received was 17 cycles. Five patients had favorable outcomes, 2 with discontinuation of NTM therapy and 3 had stable disease on NTM treatment without hospitalization for parenteral antibiotic. Two patients had relapsed and needed hospitalization. There were no serious laboratory test results during IVCY therapy. The IFN-γ Ab titers among 7 patients were significantly decreased during treatment, median of initial antibody titer starting at 200,000 then decreased to 5,000 after 2 years of treatment (P < 0.0001). In more detail, the antibody titer reduction from responsive patients shows significantly different from non-responsive patients after treatment for 6 months, median of antibody titer were 5,000 and 100,000 respectively (P = 0.0467).

Conclusions: IVCY therapy might be an alternative treatment for AOID patients who infected with M. abscessus and refractory to antimycobacterial therapy.