



INFECTIOUS DISEASES (BACTERIAL, FUNGAL, VIRAL, PARASITIC, INFESTATIONS)

DETECTION OF VIABLE MYCOBACTERIUM LEPRAE IN LEPROMATOUS LEPROSY PATIENT POST MULTI DRUG THERAPY

Ardelia Dyah Ayu⁽¹⁾ - Indropo Agusni⁽²⁾ - Nurrachmat Muliando⁽³⁾

*Dr. Moewardi General Hospital, Sebelas Maret University / Dermatovenereology
Department, Surakarta, Indonesia⁽¹⁾ - Dr. Soetomo General Hospital, Dermatovenereology
Department, Surabaya, Indonesia⁽²⁾ - Dr. Moewardi General Hospital, Dermatovenereology
Department, Surakarta, Indonesia⁽³⁾*

Background: The viability of *M. leprae* can be detected with Reverse Transcription Polymerase Chain Reaction (RT-PCR) technique. It is Ribonucleic Acid (RNA) based detection. RNA is present in living cells and will soon be degraded shortly after the cell death process. Therefore RT-PCR can be used in pre and post leprosy treatment as well as to assess leprosy treatment.

Observation: A 34 years old male came to our outpatient clinic with red painful nodules appeared all over this body since two weeks before admission. This patient had been diagnosed with morbus hansen lepromatous leprosy type and has been on multidrug therapy (MDT) since a month ago. Histopathological examination revealed atrophy and flattening of rete ridges in the epidermis, while large clusters of foamy cells with lymphocyte infiltration were seen from dermis to subcutaneous fat. Fite Faraco staining obtained acid-fast bacilli in a large number. Microbiology examination was positive for acid-fast bacilli, with bacterial index 3+ and morphology index 7%. Serological findings of Ig M anti PGL-1 and Ig G anti PGL-1 were 14.385 u / ml (cut off : 605 u / ml) and 3.115 u / ml (cut off : 630 u / ml), respectively. We performed PCR and RT-PCR examination with positive result demonstrating the presence of viable *M. leprae* after one month MDT for multibacillary leprosy. Then we diagnosed this patient with erythema nodosum leprosum in lepromatous leprosy and MDT treatment was continued.

Key message: RT-PCR is a qualitative examination to determine the viability of *M. leprae* which can be performed before, during, and after leprosy treatment. Positive result in RT-PCR after a month of leprosy treatment does not necessarily indicate MDT resistance. It could be confirmed by qualitative examination pre and post treatment as well as sequencing examination for the suspected drugs.

