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Pulmonary Non-Tuberculous Mycobacterial Infection: 889 Cases

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Objectives: With advanced microbiological methods, diagnostic capabilities, prevalence of non-tuberculous mycobacterial (NTM) infections has increased in recent years. We investigated patient records who had sputum sample with NTM positive culture results to identify clinical significance of NTMs.

Methods: NTM was detected in 889 patients at our hospital between 01 January 2009 and 31 December 2018 via rapid test on Löwenstein-Jensen medium and P-nitro-a-acetylamino-b-hydroxypropiophenone test in MycobacteriaGrowth Indicator Tube. Hsp65PCRREA was used for strain typing. Treatments, radiologic and bacteriological follow-ups and comorbidities were evaluated retrospectively.

Results: Among 889 patients (265 (29.80%) female, 624 (70.19%) male, mean age of 53.88±16.45 years), NTM strains were identified in 238 (26.79%). Mycobacterium avium complex was detected 74 (31.09%) (M.avium(37)M.intracellulare(33),-MAC(4)), M. abscessus 56 (23.52%), M. kansasii 39 (16.38%), M.fortiutum 18 (7.56%). 102 (%11.47) of 889 patients, NTM patients were diagnosed and treated according to American Thoracic Society guidelines. 176 (19.79%) received tuberculosis treatment with major tuberculosis drugs; 611 (68.72%) were followed-up without therapy, 491 (80.36%) of which had single mycobacterial growth in the culture. Of 102 patients receiving NTM treatment, 86 (84.31%) had at least two mycobacterial growth. 47 (46.07%) patients had previous treatment history, 9 (8.82%) had a previous NTM treatment history. 33 (32.35%) patients had pulmonary,16(15.68%) patients had non-pulmonary comorbidities. According to the CT findings of 56(54.90%) patients who received NTM treatment, the nodular lesion was 20(35.71%), consolidation was 21 (37.5%), cavity was 34 (60.71%) and bronchiectasis was 19(33.92%). The treatment success rate of 176 patients who received TB treatment were 136(77.27%), death 12(6.81%), default 13(7.38%), and ongoing treatment (7.38%). Drug resistance tests were studied in 91(89.21%) of 102 patients receiving NTM treatment. The treatment results of 102 patients receiving NTM treatment were evaluated as; treatment success: 40(39.21%), recurrance:3(2.94%), ongoing:24(23.52%), default:18(17.64%), exitus:10(9.80%), unknown:7(6.86%). In 54(52.94%) patients receiving NTM treatment, the mean culture conversion was 2±2 months.

Conclusion: Routine identification of NTM species is necessary for obtaining epidemiological data and decision on treatment. We are making a decision to treat NTM in a low proportion of patients with NTM in culture. The success rates of NTM treatment are low. There are problems in the treatment of NTM. New treatment regimens and medications are needed for the diagnosis and treatment of NTM patients with increased frequency and clinical significance.

Keywords: Treatment regime, treatment outcomes, non-tuberculous mycobacteria