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TREATMENT OUTCOMES OF PATIENTS WITH NONTUBERCULOUS MYCOBACTERIAL PULMONARY DISEASE

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Objective: Background: Nontuberculous mycobacteria (NTM) are opportunistic pathogens that cause NTM pulmonary disease (NTM-PD). Given its' complexity, randomized prospective clinical trials are hard to perform. We aimed to determine the characteristics of NTM-PD in Croatia, detect the possible risk factors favoring NTM-PD, record therapy outcomes and long term survival.

Methods: retrospective analysis of all Croatian residents with respiratory NTM isolate from 2006 to 2016. Definite NTM-PD was defined according to the guidelines of American Thoracic Society/Infectious Diseases Society of America. Treatment outcome (microbiological cure and complete/ partial resolution of symptoms) rates were calculated with regard to the received therapy: adequate (according to the guidelines); short duration adequate therapy (less than 12 months after culture conversion); tuberculosis protocol therapy; inadequate (i.e. single anti-NTM agent)/no therapy).

Results: medical records were available for 536 cases. Cases of active tuberculosis were excluded from further analyses. Out of remaining 472 cases, 141 were classified as definite NTM-PD. Most commonly encountered NTM species causing disease were *Mycobacterium xenopi* and *M. avium* complex. 37 (26.2%) had fibro-cavitary type, and 89 (63.1%) nodular-bronchiectatic type of disease, while the remaining 10.7% had other radiological finding. Compared to cases of colonization, patients with NTM-PD more likely had high-doses inhaled corticosteroid therapy ($p=0.019$), bronchiectasies ($p<0.0001$), low body mass index ($p<0.0001$), rheumatological disorder ($p=0.018$), or prior history of TB ($p=0.028$). 35 (24.8%) received adequate NTM therapy, 14 (9.9%) short duration adequate regimen, 43 (30.5%) TB treatment protocol, while 47 (33.3%) received inappropriate therapy or no therapy. In patients who finished with planned treatment protocol, cure was achieved in 22 (62.9%) on TB treatment, 24 (82.8%) on adequate therapy and 8 (57.1%) on short duration adequate therapy. Of 37 patients receiving inadequate or no therapy who lived for at least 6 months after the diagnosis, 7 (18.9%) achieved spontaneous culture conversion during the follow up.

Conclusion: only 25% of patient received therapy according to the guidelines. Adequate treatment significantly improved treatment outcome of patients with NTM-PD.