

## **EPIDEMIOLOGY AND INCIDENCE OF NONTUBERCULOUS MYCOBACTERIAL INFECTION IN SLOVAKIA, 2016 - 2021: A NATIONWIDE POPULATION-BASED STUDY**

M. Dohál<sup>1\*</sup>, Igor Porvazník<sup>2,3</sup>, M. Krivošová<sup>1</sup>, K. Pršo<sup>4</sup>, I. Solovič<sup>2</sup>, Juraj Mokry<sup>4</sup>

<sup>1</sup>Biomedical Centre Martin, Jessenius Faculty of Medicine in Martin, Comenius University in Bratislava, Martin, Slovakia; <sup>2</sup>National Institute of Tuberculosis, Lung Diseases and Thoracic Surgery, Vyšné Hágy, Slovakia; <sup>3</sup>Faculty of Health, Catholic University, Ružomberok, Slovakia; <sup>4</sup>Department of Pharmacology, Jessenius Faculty of Medicine in Martin, Comenius University in Bratislava, Martin, Slovakia

\*matus.dohal@uniba.sk, Malá Hora 4C, Martin, Slovakia

Nontuberculous mycobacteria (NTM) are worldwide widespread opportunistic human pathogens found predominantly in the environment, most often affecting the lungs in immuno-compromised individuals. Recent studies indicate that NTM disease is increasing, however, the true clinical impact of NTM infections and the population-based incidence of NTM disease in Slovakia remains unclear. In this work, we conducted a retrospective study using a country NTM representative collection from the National Reference Laboratory for Tuberculosis to characterize the incidence and geographical distribution of NTM diseases.

The national database was searched for patients with positive NTM cultures (identified using GenoType *Mycobacterium* CM/AS, Hain Life-science) from January 2016 to December 2021. Two categories of NTM were defined: 1) Disease and 2) Colonisation.

In the period 2016-2021, 1355 NTM-positive cultures were retrieved in Slovakia, without a significant increase during the studied period. Among these, the NTM disease was confirmed in 358 cases (26.4%). The incidence of diseases was significantly higher in patients older than 55 years ( $p < 0.0001$ ), and no significant differences between gender was observed. Most of our cases were caused by *M. intracellulare* (39.9%) and *M. avium* (38.5%). The geographical distribution of NTM diseases revealed that the region where most cases occurred was Central Slovakia (27.8%).

*This research was funded by Grant APVV-18-0084 and VEGA-1/0093/22*