

## Antimicrobial Susceptibility to Nocardia Infection from 2015-2018 in a Tertiary Care Hospital Diagnostic Laboratory from Karachi, Pakistan

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**SUMMARY.** The objective of this study was to investigate nocardiosis with focus on the incidence of pulmonary nocardiosis and the role of antibiotics. A retrospective study was performed during the period of January 2015 to June 2018. The collected data was analyzed statistically by using Pearson's Chi square test at the significance level  $p < 0.05$ . A total of  $n = 56$  cases of nocardiosis were reported during the cited period. The occurrence of pulmonary nocardiosis was 80.4% (45/56); 38 (38/45 = 84.45 %) were male gender (OR = 3.102; 95% CI = 0.714-13.48; RR = 1.327;  $p$  0.130) and 37 (82.22 %) were patients from ICU (OR = 2.643; 95% CI = 0.622-11.230; RR = 1.292;  $p$  0.172), both were found statistically non-significant. On the other hand, in year 2018, pulmonary nocardiosis (OR = 8; 95% CI = 0.943-64.864; RR = 4.889;  $p$  = 0.029) was found with significant association with genders. Trimethoprim/sulfamethoxazole, amikacin, linezolid, vancomycin and tetracycline were effective choices of antibiotics. It was concluded that the pulmonary nocardiosis is more significant in male and the rate of cases were increased progressively during 2015-2018 in Karachi, Pakistan.

**RESUMEN.** El objetivo del estudio fue investigar la nocardiosis con especial atención a la incidencia de nocardiosis pulmonar y el papel de los antibióticos. Se realizó un estudio retrospectivo durante el período de enero de 2015 a junio de 2018. Los datos recopilados se analizaron estadísticamente mediante la prueba de Chi cuadrado de Pearson en el nivel de significancia  $p < 0.05$ . Se notificaron un total de  $n = 56$  casos de nocardiosis durante el período citado. La ocurrencia de nocardiosis pulmonar fue del 80,4% (45/56); 38 (38/45 = 84,45%) eran del sexo masculino (OR = 3,102; IC del 95% = 0,714-13,48; RR = 1,327;  $p$  0,130) y 37 (82,22%) eran pacientes de UCI (OR = 2,643; IC del 95% = 0,622-11,230; RR = 1,292;  $p$  = 0,172), ambos se encontraron estadísticamente no significativos. Por otro lado, en el año 2018 se encontró nocardiosis pulmonar (OR = 8; IC 95% = 0,943-64,864; RR = 4,889;  $p$  = 0,029) con asociación significativa con los géneros. Trimetoprim/sulfametoxazol, amikacina, linezolid, vancomicina y tetraciclina fueron opciones eficaces de antibióticos. Se concluyó que la nocardiosis pulmonar es más significativa en varones y la tasa de casos se incrementó progresivamente durante 2015-2018 en Karachi, Pakistán.

**KEY WORDS:** *Nocardia* spp., pulmonary nocardiosis, relative risk, trimethoprim/sulfamethoxazole, linezolid.

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