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| **Sputum microbiology data among adult Aboriginal Australians with Bronchiectasis in the Top End Northern Territory Australia** |
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| **Introduction/Aim:** This study aims to describe the sputum microbiology results and associated relevant clinical parameters amongst an adult Aboriginal Australian cohort diagnosed to have bronchiectasis over a ten-year period (2011-2020) in the Top End, Northern Territory of Australia.  **Methods:** Aboriginal Australians aged >18 years with chest computed tomography (CT) confirmed bronchiectasis were included. All available sputum microbiology results during the study window were collected for all patients who recorded to have sputum culture undertaken, irrespective if during ambulatory out-patient’s settings or during hospital admissions.  **Results:** Of 459 total patients, sputum results were available for 425 (92.6%). *Haemophilus* species (spp.) were the most common (62.4%), followed by Fungi (52.5%) including *Aspergillus* spp. (8.7%), Streptococci (35.3%) (including *S. pneumoniae* 34.1%), *Moraxella* spp. (27.5%), *Pseudomonas* spp. (33.6%) (including *P. aeruginosa* 31.8%), Staphylococci (15.1%) (including *S. aureus* 14.6%), Mycobacteria (12.5%) (including *M. tuberculosis* 1.6%), *Klebsiella* spp. (6.8%) and *Burkholderia* spp. (4.7%). Most patients (66.6%) cultured polymicrobial organisms. Concurrent presence of Streptococci and *Haemophilus* spp. were relatively common (R2=0.32, p<0.001), as were Streptococci and *Moraxella* (R2=0.32, p<0.001), *Haemophilus* spp. and *Moraxella* spp. (R2=0.26, p<0.001), and *Pseudomonas* spp. and *Haemophilus* spp. (R2=0.21, p<0.001). In multivariate models, adjusted for age, sex, urban residence, COPD and hypertension, Haemophili, Fungi, Streptococci, *Moraxella* spp. and *Pseudomonas* spp. were associated with significantly increased odds of hospitalisation in the last 2 years.  **Conclusion:** Aboriginal Australian patients with bronchiectasis show a high burden of diverse microorganisms in sputum. Several species are associated with increased odds of hospitalisation. The results of this study may be an avenue to guide early interventions and in selecting anti-microbial treatment in the primary health care level to prevent recurrent hospitalisations.  **Grant Support:** This research received the TSANZ - Robert Pierce Grant-In-Aid for Indigenous Lung Health. The TSANZ did not have any role in the study design, data collection, analysis, or interpretation. |