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Arthrographis kalrae is a saprophytic fungus with initially yeast-like colonies, eventually developing hyphae and distinctive cylindrical arthroconidia. *A. kalrae* is rarely associated with human infection. This study reports the first case of prosthetic joint infection.

A 75-year-old male with a background of type 2 diabetes, obesity and total knee replacement underwent debridement and polyliner exchange for chronic methicillin-resistant *Staphylococcus aureus* (MRSA) prosthetic joint infection. He was treated with vancomycin for 6 weeks and oral trimethoprim/sulfamethoxazole (SXT) for 18 months. Although the wound remained intact, knee inflammation progressed after cessation of SXT. First stage revision revealed loose femoral and tibial components, tibial and patellar bone defects, and turbid synovial fluid. Histology demonstrated chronic inflammation and small branching hyphae but no neutrophils. MRSA was not isolated however cultures from multiple specimens grew a fungus. The isolate was referred to the National Mycology Reference Centre (NMRC) for confirmation and susceptibility testing, where morphological features were consistent with *Arthrographis* spp. *A. kalrae* was confirmed using the Bruker Biotyper MALDI-ToF MS (Score 2.28).

Liposomal amphotericin for 2 weeks followed by voriconazole and terbinafine were given in conjunction with repeated debridement and voriconazole-infused cement. A review of the literature and the implications of prosthetic joint associated fungal infection will be discussed.

COMPARATIVE EVALUATION AND LONGEVITY OF NEUTRALISING AND BINDING ANTIBODIES FOR SARS-COV-2

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There are many unanswered questions regarding serological testing for SARS-CoV-2 including the longevity of the neutralising antibody response and correlation with binding antibodies and subsequent protection. This study evaluated the durability of neutralising antibody response over a 12-month period using the cPass™ SARS-CoV-2 sVNT and correlation with binding antibodies using both the LIAISON® SARS-CoV-2 S1/S2 IgG and Abbott Architect SARS-CoV-2 IgG. 214 samples were evaluated from 81 SARS-CoV-2 NAAT confirmed positive patients collected from March 2020-March 2021 at various time intervals post symptom onset. 120 samples from a reference non-infected population were used for specificity analysis. The cPass™ SARS-CoV-2 sVNT had the highest overall sensitivity 90.3% [CI 84.9, 93.1]. Specificity was comparable to both binding antibody assays, 98.33 [CI 95.4, 99.96]. Sensitivity peaked at 3-6 months post symptom onset at 100% [CI 91.4, 100.0] and persisted up to 9-12 months post infection with sensitivity of 78.8% [CI 62.3, 89.3]. S1/S2 binding antibodies demonstrated satisfactory correlation with RBD neutralising antibodies (Spearman coefficient 0.8937 [CI 0.86, 0.92]); nucleocapsid antibodies, however, waned markedly 6 months following

infection. There was an association with clinical severity and degree of neutralising antibody response ($p=0.0025$). No association between age or gender was demonstrated in this study. These results support both the use of the cPass™ SARS-CoV-2 sVNT to assess neutralising antibodies and the possible use S1/S2 binding antibodies as a surrogate for neutralising antibodies in diagnostic laboratories; as well as provides information on durability of neutralising antibody response and kinetics over time as the COVID-19 pandemic unfolds.

LABORATORY SAFETY: HANDLING *B. PSEUDOMALLEI* ISOLATES WITHOUT A BIOSAFETY CABINET

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Background: *B. pseudomallei* is a tier 1 select agent that is associated with laboratory-acquired melioidosis, with international guidelines recommending isolate handling within a class II biosafety cabinet (BSC) in a Biosafety Level (BSL) 3 facility. In low-resource settings this may not be practical, and therefore the authors aimed to assess the risk of laboratory-acquired melioidosis during routine work.

Methods: A questionnaire combined with two serological assays were conducted to determine prior exposure to the organism. Additionally, we performed controlled environmental air sampling during 78 laboratory handling events including plate opening, oxidase testing, and McFarland suspension creation.

Results: Of 30 laboratory scientists to handle *B. pseudomallei* on 1,267 occasions outside a biosafety cabinet no infections were documented and all participants remained seronegative. None of the experiments demonstrated aerosolisation of the organism.

Conclusion: This study suggests the risk of laboratory-acquired melioidosis is likely to be low. However, individual laboratories will need to undertake a risk assessment including melioidosis endemicity, availability of resources for containment, the nature of routine handling to be undertaken, and the presence of predisposing risk factors for infection in the staff concerned. Further research is required to better understand on the risk of infection in the microbiology laboratory.

Contribution: IG conceived of the idea, obtained funding, obtained ethics approval, performed bioaerosol experiments and contributed to each section of the manuscript.

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NEONATAL CANDIDAEMIA; SIX-YEAR EXPERIENCE FROM A TERTIARY CARE CENTRE IN SRI LANKA

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