where small PC populations occur or where background reactive plasmacytosis occurs.

USING GENOTYPE TO COMBAT RESISTANCE: DEVELOPMENT OF A POTENTIAL TREATMENT AND SIMPLE PHENOTYPIC TEST DURING A ‘PAN-RESISTANT’ KLEBSIELLA PNEUMONIAE MINI-OUTBREAK

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Aims: Aztreonam/clavulanic acid combination therapy is a potential treatment for multi-resistant Enterobacteriaceae containing MBLs and ESBLs. We describe an aztreonam/clavulanic acid based phenotypic detection and susceptibility test for MBL and ESBL-containing multi-resistant Enterobacteriaceae derived from initial genotypic characterisation.

Methods: Three phenotypically pan-resistant (by Etest and automated broth microdilution) K. pneumoniae isolates from a clinical colonisation mini-outbreak were shown by PCR to contain MBL and ESBL β-lactamas. These isolates and thirteen other Enterobacteriaceae containing MBLs and ESBLs (with three also containing AmpC β-lactamas) were assessed for susceptibility to aztreonam/clavulanic acid by either broth microdilution or Etest, and our phenotypic disc-diffusion assay. β-lactamas were confirmed by multiplex PCR/reverse line blot.

Results: Clavulanic acid restored susceptibility to aztreonam in all ‘pan-resistant’ outbreak isolates but not strains also carrying an AmpC β-lactamase. Our disc-diffusion assay predicted 16/16 MBLs, 15/16 ESBLs and 3/3 AmpC β-lactamas and showed susceptibility to aztreonam/clavulanic acid in all non-AmpC isolates.

Discussion: Pan-resistant Gram-negative isolates are likely to become increasingly common. We have described a potential treatment for an initially phenotypically pan-resistant organism that was predicted from a genotype and developed a simple combined phenotypic detection and susceptibility test. Both potential treatment and test could be employed in resource poor settings.

THE CHANGING EPIDEMIOLOGY OF KLEBSIELLA PNEUMONIAE CARBAPENEMASE (KPC) RESISTANCE IN AUSTRALIA

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Aims: The aims of this study were to firstly describe the epidemiology, risk factors and outcomes of patients with KPC producing organisms at our institution, and secondly, to describe an outbreak involving seven patients admitted to a geriatric evaluation and management (GEM) ward.

Methods: A retrospective review was conducted to assess 29 patients with KPC producing organisms in a tertiary referral centre in Australia from 2012 to 2014. In addition, a prospective assessment of an outbreak was conducted including a molecular evaluation of the isolates and patient outcomes.

Results: Of the 29 patients, 55% were male with a median age of 69 years. The greatest risk factors for acquiring a KPC producing organism were length of hospital stay and recent exposure to broad spectrum antibiotics. The 30 day mortality rate was 17.2%, which increased to 37.9% at 60 days. The seven patients identified in the outbreak were exposed to an index case where a KPC was isolated from urine. The whole genome sequence analysis revealed all seven isolates were highly clonally related. Two of the patients died of causes not directly attributable to KPC colonisation.

Discussion: This study highlights the increasing threat of KPC producing organisms in Australia.

AN UNUSUAL SKIN LESION CAUSED BY LASIODIPLODIA THEOBROMAE

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Lasiodiplodia theobromae is a common plant pathogen of tea and fruiting plants from the Coelomycetes family. It is a rare plant pathogen in both immunocompetent and immunocompromised hosts with infections reported including sinusitis, keratitis, pneumonia and cutaneous lesions.

We describe a case of subcutaneous infection as a result of traumatic implantation caused by the fungus Lasiodiplodia theobromae. It was isolated in multiple swabs from the foot of an active healthy male following a penetrating sea water injury. Following the trauma, the patient used wild aloe vera plant leaf to promote wound healing and this was thought to be a potential source of inoculation. Identification was performed by traditional mycology culture methods with sporulation occurring only with cornmeal agar at 28 days. Identification was confirmed by DNA sequencing. The patient was successfully treated with voriconazole.

A CASE OF AMOEBIC APPENDICITIS IN NORTH QUEENSLAND

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A 13-year-old female from Mornington Island presented with diarrhoea, vomiting, and abdominal pain. Laparoscopic investigation was performed and a gangrenous appendix removed. Histological examination was initially unremarkable, but a later review of the periodic acid-Schiff (PAS) stain demonstrated several areas of PAS-positive bodies consistent with invasive Entamoeba histolytica.

Further testing was performed to confirm the diagnosis of E. histolytica, including serology and PCR from paraffinised tissue. The patient was treated with metronidazole and paromomycin to ensure treatment of both tissue and luminal phases of the parasite.