were negative. Unfortunately, pre-treatment cryoglobulins had not been tested. However, testing 6 months after presentation confirmed type 2 cryoglobulins, and anti-GBM levels had normalised. Cryoglobulins or another interfering factor may have caused platform-specific assay interference, affecting anti-GBM and other autoantibody detection on the same platform.

RETROSPECTIVE REVIEW OF TCR-Vβ ANALYSIS BY FLOW CYTOMETRY AND PROPOSED USE OF SCREENING METHOD

Carolyn Wijaya[1,2], Karla Lemmert[1], Theo De Malmanche[1,2]
[1]*Immunology Department, NSW Health Pathology, Newcastle, Australia; and* [2]*University of Newcastle, Newcastle, Australia*

Background: Flow cytometric analysis of the TCR-Vβ repertoire can help to determine T cell clonality. The most useful application is in the early diagnosis of T cell neoplasms.
Methods: All TCR Vβ assays performed between 2010–2019 at John Hunter Hospital Laboratory were included. 24 Vβ families were tested, gated on CD4 or CD8 cells.
Results: 37 Vβ assays were performed on 36 patients. 35 tests were performed on blood, with 2 on tissue. 3 cases were paediatric.
The distribution of results were: 20 monoclonal, 5 suspected and 12 polyclonal. The final clinical diagnoses will be presented.
Discussion: In the monoclonal and suspicious groups, abnormalities in Vβ4, Vβ14 and Vβ17 were most frequently found. If screening using only these specificities, a total percentage of <3% or >58% was suspicious of clonality and should prompt full TCR-Vβ testing. Based on the samples audited, this screening method has a sensitivity of 96% and specificity of 91%.
Conclusion: TCR-Vβ analysis by flow cytometry is a rapid quantitative method to determine T cell clonality. We propose the use of a screening method using 3 Vβ antibodies in one tube, with further characterisation if warranted. Further studies are needed.

SEROPREVALANCE TO *COXIELLA BURNETTI* IN THE RAMU VALLEY OF PAPUA NEW GUINEA

Gabriella Ak[1], Stephen Graves[2], John Stenos[2], John Ferguson[3]
[1]*University of Papua New Guinea, School of Medicine and Health Sciences, Pathology Department, Papua New Guinea;* [2]*Australian Rickettsial Reference Laboratory, Barwon Health, Geelong, Vic, Australia; and* [3]*John Hunter Hospital, Newcastle, Hunter New England Health, Pathology North, NSW, Australia*

Background: In Papua New Guinea (PNG) most febrile illnesses are attributed to malaria. However, recent studies have confirmed the presence of other fever producing illness like dengue and rickettsia. The purpose of this study was to establish serological evidence to *C. burnetii* the causative bacteria of Q fever, another fever producing illness in the human population of PNG in the Ramu Valley.
Methods: 327 blood samples were sent to the Australian Rickettsial Reference Laboratory in Geelong, Australia, for serology and PCR testing.
Results: There was only phase II positive serological results, none of the samples had phase I reactivity. This study considered a cut off of phase II titer of ≥50 of either IgA, IgM or IgG as seropositive. The seroprevalence of Q fever in the Ramu Valley was 4.9% (16/327). The proportion of females (62%) was higher than males (38%). In age distribution, the largest proportion 7.2% (7/97×100) of seropositive was in the 21–30 year age group. Residential areas and cattle exposure were found to be the main risk factors associated with exposure to *C. burnetii*. All PCR results were negative.
Conclusion: There is serological evidence of exposure to *C. burnetii* in the Ramu Valley of PNG. Health workers can consider Q fever as a differential diagnosis in patients with fever, generalised body aches, malaise and a suggestive history.

FATAL *E. COLI K1* MENINGITIS AND VENTRICULITIS IN AN ADULT

M. Al Bawarshy, Chris Swan, H. T. Samarasekara
Department of Microbiology and Infectious Diseases, Nepean Hospital, Penrith, NSW, Australia

Escherichia coli K1 is known as highly virulent pathogen, commonly causing neonatal meningitis. It is an extremely uncommon aetiological agent as a community acquired meningitis in adults, which has 25% mortality and neurological complications in over 50% of patients.
Many routine clinical microbiology laboratories lack facilities for molecular diagnosis and or serotyping to identify this organism. Our current CSF diagnostic platform includes a 14 target multiplex PCR assay including the PCR target for *E. coli K1* capsular antigen. This resulted in us picking up rare, possibly previously underdiagnosed cases of *E. coli K1* meningitis.
An elderly female, found in a collapsed state at home with fever, vomiting, urine and faecal incontinence was brought to our emergency department. Urgent CT scan demonstrated ventriculitis with extensive pus formation.
CSF analysis has demonstrated neutrophil leucocytosis, elevated protein, very low glucose and moderate Gram-negative bacilli, which were identified soon after as *E. coli K1* by Biofire film array ME panel. All other cultures of the patient were unremarkable except urine culture which grew extremely susceptible *E. coli K1 strain.* Despite being treated with meropenem, ceftriaxone, aggressive neurosurgical treatment and intensive care, the patient passed away on day 9 of illness.

AN EVALUATION OF SYNDROMIC MULTIPLEX PCR TESTS FOR THE DETECTION OF PATHOGENS ASSOCIATED WITH GASTROENTERITIS

Adam Hammonds[1], Rifky Balgahom[1], Anne Fryer[1], Catherine Janto[1], Harsha Samarasekara[1], James Branley[1,2]
[1]*Department of Microbiology and Infectious Diseases, NSW Health Pathology, Nepean Hospital, Penrith, NSW, Australia; and* [2]*Infectious Diseases and Microbiology, University of Sydney, Sydney, NSW, Australia*

A broad spectrum of enteric pathogens can cause infectious gastroenteritis. Conventional diagnostic procedures such as culture, biochemical identification, immunoassay and microscopic examination currently used by many laboratories are time consuming and typically lack sensitivity and specificity. Syndromic multiplex polymerase chain reaction (PCR) based testing allows for the detection of a greater number of gastrointestinal (GI) pathogens with greater sensitivity and specificity within a relatively short time-frame.