in recent years where she had been transfused 3 times in 2017, 1 time in 2018, but she already received 3 times transfusion in the first quarter of 2019, with no increment of Hb. Clinically, she has splenomegaly about 10 cm on palpation. She was diagnosed with hyper-haemolysing syndrome secondary to haemolytic transfusion reaction and treated with immunoglobulin and corticosteroid regime.

MM-61. Susceptibility pattern of *Burkholderia pseudomallei* isolates in Negeri Sembilan, Malaysia

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Introduction: Antibiotics resistance of *Burkholderia pseudomallei* has been reported in few studies. The aim of this study was to determine the *in vitro* antibiotic susceptibility patterns of *B. pseudomallei* isolated in Negeri Sembilan. *Materials & Methods:* A total of forty-six *B. pseudomallei* non-repeat clinical isolates were isolated from October 2017 until June 2018 in Negeri Sembilan. All isolates were subjected to Minimum inhibitory concentration (MIC) determination using E-test method (bioMèrieux) to five antibiotics namely, ceftazidime, imipenem, amoxicillin/clavulanic acid, co-trimoxazole and tetracycline. The MIC (µg/mL) interpretation was carried out following the CLSI guideline M45-A2. In addition, 27 from total of *B. pseudomallei* isolates had additional MIC tested for meropenem and interpretative criteria outlined by the *E*-test manufacturer for aerobes were followed as no breakpoint interpretation in EUCAST and CLSI. *Results & Discussion:* This study demonstrates all *B. pseudomallei* isolates were 100% susceptible to ceftazidime while 97.8% were susceptible to imipenem, amoxicillin–clavulanic acid, tetracycline and co-trimoxazole. One isolate that was intermediately resistant to imipenem, also had co-resistance to amoxicillin/clavulanic acid and tetracycline. From our study, one isolate was found to be resistant to co-trimoxazole alone. There were no resistant documented from all 27 isolates tested for meropenem. These findings were comparable with a study from IMR which has shown that *B. pseudomallei* isolates from Malaysia were also highly susceptible. Meropenem has been used for patient with severe melioidosis which associated with good outcome. However, EUCAST and CLSI do not provide a standard for assessing of susceptibility and breakpoint interpretation of *B. pseudomallei* to meropenem. It is important to have clinical breakpoints for meropenem as we might wrongly interpret the susceptibility as treatment failure with meropenem is possible. *Conclusions: B. pseudomallei* isolates in Negeri Sembilan were still susceptible to all recommended antimicrobial agents used for the treatment of melioidosis. However, regular monitoring is needed to detect any emergence of resistance.

MM-62. Distribution of Group B *Streptococcus* and its antibiotic sensitivity pattern among isolates in Kelantan: A 5-year review

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Introduction: Group B Streptococcus (GBS; *Streptococcus agalactiae*) is a well-known causative agent for invasive disease in pregnant mother and newborns. Currently, the organism has emerged as an important cause of morbidity and mortality among non-pregnant adults with underlying medical conditions. The study on the epidemiology and characterization of GBS infections in Malaysia remain limited. The aim of this study is to review the distribution of GBS isolates in Kelantan population. *Materials & Methods:* A retrospective laboratory based on analysis of GBS isolates from two general hospital in Kelantan (Hospital Raja Perempuan Zainab II and Hospital Universiti Sains Malaysia) from January 2014 to December 2018 were done. Antimicrobial susceptibility was determine using a disc diffusion method and interpreted according to the Clinical and Laboratory Standards Institute (CLSI). *Results & Discussion:* A total of 7649 of GBS were isolated in 2014 till 2018. GBS isolates mainly from adults 91.4% (n=6597) which include pregnant and non-pregnant mother, 4.3% (n=306) elderly age and remaining 2.3% (n=165) and 2.0% (n=147) were from pediatric and neonate groups respectively. Majority of the GBS organism 68.17% (n=5005) were isolated from vaginal swab samples. The remaining 31.83% (n=2337) were from various samples such as blood 13.13% (n=329), swab and pus 42.06% (n=1054), tissue 20.2% (n=506) and urine 16.65% (n=417). Susceptibility rates to penicillin and erythromycin were 95.3% and 89.33% respectively, while susceptibility rate for clindamycin was 87% but it was tested in one center only. *Conclusions:* GBS isolates are common in adult especially among pregnant women. However, the isolation of GBS isolates in soft tissue sample are increasing. The organism showed good sensitivity among commonly used antibiotics. Additional data is needed for determination of prevalence among pregnant and non-pregnant adults.

MM-63. Isolation and characterization of lytic bacteriophages infecting *Klebsiella pneumoniae* from sewage samples

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Introduction: Klebsiella pneumoniae is a Gram-negative bacterium that can cause different types of infections such as pneumonia, septicaemia, wound infections and meningitis. *Klebsiella pneumoniae* is one of the top aetiological agents for nosocomial infection, and it has gained its notoriety with the emergence of multidrug resistance to beta lactam and carbapenem antibiotics. The emergence of multidrug resistant *Klebsiella pneumoniae* is reverting mankind to the pre-antibiotics era. In this study, we explored the possibility to isolate and characterize bacteriolytic bacteriophages from our local sewage as potential antimicrobial

candidates against *Klebsiella pneumoniae*. *Materials & Methods:* Five lytic Klebsiella bacteriophages namely ϕKPaV03, ϕKPaV04, ϕKPaV08, ϕKPaV10 and ϕKPaV12 were isolated from the raw sewage at Universiti Malaysia Sarawak (UNIMAS) sewage runoff and characterized based on their biological properties, such as their plaque and structural morphologies, host range, growth curve, bacteriophage multiplicity of infection (MOI) and structural protein composition. *Results & Discussion:* These bacteriophages have large burst size with high titer assay between 10^8-10^{12} pfu/mL and were predominantly stable at 4°C. Two among the five bacteriophages were capable of efficiently lysing more than five *Klebsiella pneumoniae* strains out of 18 clinical and community-acquired isolates from Borneo Medical Centre (BMC) and students of UNIMAS, respectively. These bacteriophages also exhibit several properties indicative of potential utility in phage cocktails and phage-antibiotic synergy (PAS) approaches in reducing antibiotic-resistant *Klebsiella pneumoniae* strains. *Conclusions:* The use of bacteriolytic bacteriophages as an alternative to antibiotics treatment is not new and numerous clinical trials have been carried out with excellent safety records and are considered as risk group 1 agents. This study confirms that potent bacteriolytic bacteriophages can be easily isolated from local raw sewage and be potentially developed into in-house anti-*Klebsiella pneumoniae* therapeutic agents.

MM-64. Prevalence, clinical manifestations and predictors of immune reconstitution inflammatory syndrome in HIV-infected patients started on HAART in 2017 in Hospital Sungai Buloh: A retrospective study

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Introduction: Highly active antiretroviral therapy (HAART) has significantly reduced HIV-associated morbidity and mortality. The access to HAART in the last decade has improved, especially in low- and middle-income countries including Malaysia. However, a subgroup of patients experiences paradoxical clinical deterioration despite satisfactory control of viral replication and improvement in CD4 T-lymphocyte counts. This condition is known as immune reconstitution inflammatory syndrome (IRIS) which occurs due to infectious and non-infectious aetiologies. Incidence of IRIS varies according to population and the clinical manifestations are wide with increasing symptoms and aetiologies being reported. Our objective is to determine the prevalence, clinical manifestations and predictors of IRIS in Hospital Sungai Buloh, a reference centre for infectious diseases in Peninsular Malaysia. *Materials & Methods:* A retrospective study of 256 HIV-infected patients who were started on HAART between 1 January 2017 and 31 December 2017 in Hospital Sungai Buloh. Medical records were reviewed to identify clinical events consistent with IRIS after HAART was initiated. Relevant laboratory parameters were obtained from Laboratory Information System (LIS). *Results & Discussion:* From 256 patients, majority was males (92.2%) of Malay ethnicity (53.5%) and aged between 26-50 years old (88.7%). IRIS was identified in 45 (17.6%) of patients. The most common IRIS cases were *Mycobacterium tuberculosis* infections (53.3%), followed by pneumocystis pneumonia (11.1%) and talaromycosis (6.6%). Two cases of each toxoplasmosis, herpes zoster infection, cytomegalovirus infection and salmonellosis were identified. Only one case of non-infectious IRIS (subacute lupus erythematosus) was observed. Baseline CD4 T-lymphocyte count of less than 100 cells/μL (OR 7.14, 95% CI: 3.28-15.59; p<0.001) and baseline viral load of more than 5.5 log (OR 3.56, 95% CI: 1.39-9.14; p=0.008) are independent predictors for developing IRIS. *Conclusions:* Non-infectious IRIS does occur despite commoner infectious aetiologies. Patients with low CD4 T-lymphocyte count and high viral load at HAART initiation are at higher risk of developing IRIS.

MM-65. Determination of specific antigenic protein for detection of *Burkholderia pseudomallei* infection

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Introduction: Burkholderia pseudomallei is the causative agent for melioidosis, a disease endemic in Southeast-Asia and Northern Australia. The disease causes great deal of morbidity and mortality. Culture remains as the current gold standard diagnosis for melioidosis. The method requires lengthy time. Upon successful isolation, identification of the organisms using panels of biochemical testing is non-definitive as reactions produced are similar with other bacteria such as *Pseudomonas* spp., *Burkholderia cepacia*, *Burkholderia vietnamiensis* and *Stenotrophomonas maltophilia*, requiring additional test for confirmation. Serological method is not widely available. The aim of this study is to identify specific protein/s in *B. pseudomallei* that can be used as target antigen/s for development of diagnostic tool. *Materials & Methods:* Purified proteins were obtained from overnight culture of *B. pseudomallei* isolates. The proteins were subjected to 1D and 2D gel electrophoresis to separates them based on molecular weight. Western blotting was performed using reactive human sera against *B. pseudomallei*. The proteins were also tested against sera reactive for Leptospirosis, Q fever and Brucellosis. The potential antigenic proteins were identified and sent for sequencing. *Results & Discussion:* Five protein spots sequenced were identified as groL1 chaperonin (57kDA/pI5.13), NAD dehydratase (22kD/pI6.7), oxoacid CoA transferase A subunit (25kD/pI5.5), oxoacid CoA transferase B subunit (22kD pI4.7), and Phasin granule associated protein (20kD/pI5.9). Among all, groL1 chaperonin protein was the most suitable candidate. The protein did not exhibit cross reactivity with sera reactive for other diseases. *Conclusion:* GroL1 chaperonin protein is a potential antigen to be used in serological test for diagnosis of melioidosis.