National Pathology Conference (NPC) Melaka 2025: Transformation in diagnostic pathology: shaping the future of healthcare, organised by Pathology Department Hospital Melaka and held on 10th – 11th September 2025 at Courtyard by Marriott, Melaka, Malaysia. Abstracts of plenary, talk, symposium and paper presented are as follows:

Plenary I: Transformation in diagnostic pathology: shaping the future of healthcare

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Diagnostic pathology plays an integral part of patient care and its role has evolved tremendously. There is a growing need for an enhanced role of diagnostic pathology in patient care. The advancements in automation, molecular diagnostics, digital technology and artificial intelligence have brought on major changes in the pathology service delivery. These innovations in diagnostic pathology are revolutionising the disease detection, diagnostic accuracy, timeliness and precision medicine. Good governance is very important in transformation. It plays a key role in optimisation of procedures, human resources, equipment, assets, and infrastructure for an effective and efficient utilisation of the facility valuable resources. These are crucial steps to meet the growing diagnostic pathology service demands but also with many challenges especially in limited resources environment. Pathology services need to move forward in tandem with the requirement and advancement of clinical patient care. It must always be part of the requirement in providing safe, efficient, effective, timely, equitable and patient-centred healthcare systems. Medical laboratories must continue to be visible in playing pivotal role in clinical decisions making through disease screening, diagnostics, treatment or disease progress monitoring and prognostication.

Plenary II: Navigating MDA Requirements in Malaysia on In Vitro Diagnostic Medical Devices: Understanding the Requirements, Responsibilities, and Impact on Clinical Practice

Nur Izzati binti Haris Fadzilah
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The regulation of In Vitro Diagnostic (IVD) medical devices in Malaysia is governed by the Medical Device Authority (MDA) under the Medical Device Act 2012 (Act 737) and its subsidiary regulations. This abstract provides an overview of the key regulatory requirements and stakeholder responsibilities that influence the development, registration, and use of IVD devices within clinical settings in Malaysia. It highlights the classification system for IVDs, conformity assessment procedures, the role of conformity assessment bodies (CABs), and post-market obligations including vigilance reporting and recalls. The discussion also explores the responsibilities of manufacturers, importers, and healthcare professionals in ensuring compliance with safety and performance standards. Furthermore, this examines the practical implications of these requirements on clinical laboratories and diagnostic practices, especially in relation to quality management systems, clinical evidence, and product labelling. Key points addressed include the harmonization of MDA regulations with international frameworks, challenges faced by stakeholders during regulatory submission, and the impact of evolving requirements on innovation and patient safety. By understanding the regulatory landscape, healthcare providers and industry players can improve readiness for audits, enhance compliance, and ultimately ensure the availability of safe and effective diagnostic tools in the Malaysian healthcare system.

TALK

Updates on Bladder Cancer Staging and Reporting

Dr Suhaila binti Abdullah
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Accurate pathological staging of bladder cancer is critical for guiding management, particularly when using transurethral resection of bladder tumour (TURBT) specimens. The presence and assessment of muscularis propria (MP) are essential for staging adequacy and treatment decisions. However, several diagnostic challenges may compromise accuracy, including histo-anatomical variations, specimen fragmentation, and morphological mimics. This presentation outlines key pitfalls in staging, such as misinterpretation of carcinoma in situ (CIS) as high-grade papillary lesions and vice versa, difficulties distinguishing inverted growth from lamina propria invasion, and errors in assessing tumours at anatomically complex sites like the trigone or bladder diverticula. Particular attention is given to the need for subcategorization of T1 tumours, which are often understaged and show prognostic heterogeneity. Both histoanatomic and micrometric subtyping approaches are discussed, alongside their limitations. The utility of immunohistochemical markers, including smoothelin and desmin, in distinguishing muscle layers is also reviewed. Emphasis is placed on the importance of correlating histological features with cystoscopic findings and the need for clear reporting of MP status. Where staging is uncertain, a second resection may be warranted. By recognising these issues and adopting a systematic approach, pathologists can improve diagnostic accuracy and contribute to better clinical outcomes in bladder cancer care.

investigations, symptomatic management, and structured follow-up, including monitoring of symptom resolution, liver function, and spleen size, are key to ensuring complete recovery in uncomplicated paediatric EBV infections.

M55 Real-world Experience with IGRA Testing at Hospital Sultan Haji Ahmad Shah, Temerloh, Pahang: Insights, Challenges and Impact

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Interferon Gamma Release Assay (IGRA) is a screening tool to determine whether a person is infected with Tuberculosis (TB). IGRA testing is crucial at each phase: pre-examination, examination and post-examination. Trained personnel and constant vigilance are essential at every phase. This study shares experience of operational network, challenges in implementation process and diagnostic outcomes of IGRA testing. Since 2024, Hospital Sultan Haji Ahmad Shah (HoSHAS), Temerloh became the designated IGRA testing centre, serving 11 districts in Pahang state, accommodating 15 government hospitals, 11 district health offices and 118 health clinics. A total of 2,736 samples were handled from internal and external locations. The external network involved 6 health clinics equipped with incubators and centrifuges, facilitating standardised pre-examination steps. Samples were incubated at 37°C for 16–24 hours, centrifuged, and transported at 4–27°C to HoSHAS. Internal requests were coordinated through a dedicated IGRA team, with test ordering via the HIS system and scheduled twice monthly. Testing conducted using QuantiFERON-TB Gold Plus (QFT-Plus) platform, ELISA method (22 samples per batch), with results uploaded to SIMKA and LIS systems within 21 working days. Of the total samples, 2,421 (88.49%) were negative, 287 (10.49%) positive, and 28 (1.02%) indeterminates; achieved benchmark of <5% indeterminate rate. IGRA testing is feasible when robust coordination, sample handling, and logistics are in place. Centralising testing at HoSHAS while decentralising collection supports efficient state-wide TB screening. Ensuring strict adherence to all testing phase is critical to sustain test quality and minimise indeterminate results.

M56 Uncommon Non-vaccine Serotype 19B *Streptococcus pneumoniae* causing Mastoid Abscess in a Child: A Case Report

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Introduction: Serotype 19B is an uncommon serotype of *Streptococcus pneumoniae* in Malaysia and worldwide. It is underrepresented, with limited data on its laboratory characteristics and pathogenicity. *Case presentation:* A 12-year-old boy presented with painful left post-auricular swelling and a worsening headache for two weeks, preceded by fever and upper respiratory symptoms. Examination revealed a 4 by 3 cm tender swelling over the left postauricular area. Otoscopic examination of the left ear revealed an oedematous external auditory canal and inflamed but intact tympanic membrane. HRCT temporal bone and CECT brain consistent left otomastoiditis with subperiosteal abscess and left sigmoid venous sinus thrombosis. He underwent left modified radical mastoidectomy. Intraoperative pus swab culture grew *S. pneumoniae*. The isolate was a susceptible strain with an extremely mucoid phenotype and identified as serotype 19B. He was treated with intravenous ceftriaxone for 28 days, oral erythromycin for one week, and topical antibiotic ear drops with clinical improvement. *Discussion:* The mucoid phenotype in *S. pneumoniae* is typically linked with serotype 3, which is known to cause invasive pneumococcal disease (IPD). Meanwhile, serotype 19B with similar phenotype is a rare non-vaccine serotype with scarce evidence regarding its invasive properties. Although the isolate was obtained from an intraoperative pus swab, the finding suggested a clinically significant localised pneumococcal infection, despite not fulfilling strict IPD criteria. *Conclusion:* Discovery of serotype 19B *S. pneumoniae* in clinical samples is imperative for ongoing serotype surveillance of severe or invasive pneumococcal disease in anticipation of the emergence of non-vaccine serotype.

M57 Gut Checkmate: *Listeria* or Ischaemia?

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Of the 27 species in the *Listeria* genus, *Listeria monocytogenes* is distinguished as the only significant human pathogen. Listeriosis typically affects the extremes of age, pregnant women, and immunocompromised individuals, often manifesting as sepsis or meningitis. We report a fatal gastrointestinal manifestation of listeriosis in an immunocompetent patient, mimicking bowel ischaemia. A 61-year-old previously healthy man presented with a one-week history of profuse diarrhoea, abdominal pain, and lethargy. Despite being afebrile, he came in with septic shock, hyperlactataemia and multi-organ dysfunction, requiring intubation, fluid resuscitation, and inotropic support. A mesenteric CT angiogram revealed bowel wall thickening with dilated small bowel and colon, raising suspicion of inflammation and bowel ischaemia. Even with intensive supportive care and administration of ceftriaxone and meropenem, the patient succumbed to the illness within two days of admission. Blood cultures obtained on admission later identified as *L. monocytogenes*, through MALDI-TOF extraction method and confirmed by 16S rRNA sequencing. The isolate was susceptible to penicillin. While gastrointestinal listeriosis typically presents as a benign, self-limiting gastroenteritis linked with a clear epidemiological to foodborne outbreaks. Sporadic cases of fatal gastrointestinal listeriosis manifesting as bowel ischaemia are rare, particularly in an immunocompetent individual. Dissemination of this foodborne pathogen begins with colonisation of the mesenteric lymph nodes. In this case, the antibiotics of choice for empiric treatment of fatal sepsis were ineffective against *Listeria*; therefore, timely microbial identification could have been lifesaving.