in analytical performance have significantly enhanced the clinical utility of troponin assays, and the high sensitivity versions now in use are capable of measuring extremely low concentrations of troponin with high precision. Such assays have allowed contraction of the time frame required to confidently rule in and rule out acute myocardial infarction, permitting earlier intervention and earlier discharge, respectively. Robust analytical performance is essential to support clinical decision making, yet high sensitivity troponin assays are afflicted by a range of analytical issues that can undermine their value. These include a high rate of non-reproducible errors, or 'fliers', affecting certain assays; a high prevalence of macro-troponin interference affecting multiple assays; and possible loss of cardiac specificity of the troponin T assay in the setting of skeletal muscle disease. This talk will characterise the pitfalls and problems affecting troponin assays, and the risks they confer to patients, laboratories and health care services. Tension between the clinical importance of high sensitivity troponin assays and their analytical shortcomings highlights the need for continued innovation and solutions from our manufacturers.

WHAT'S NEW IN BONE MARKERS

Samuel Vasikaran

PathWest-Fiona Stanley Hospital, Murdoch, WA, Australia

Procollagen type I N propeptide (s-PINP) and cross-linked β -isomerised type I collagen C-telopeptide (s- β CTX), in blood were designated as reference standard bone turnover markers in osteoporosis. This has led to their adoption worldwide for routine use, as well as for clinical trials leading to further accumulation of data on these two markers, facilitating their appropriate use for monitoring osteoporosis therapy. Newer uses for these markers include managing treatment withdrawal (drug holiday) as well when switching therapies. The recently approved sclerostin antibody therapy (romosozumab) has novel effects on bone turnover markers.

Optimum preanalytical measures have been documented and there is agreement on reporting units. A multicentre study to examine agreement between assays for PINP and β -CTX in serum and plasma indicates harmonisation of the two automated PINP assays in subjects with normal renal function whereas assays for CTX show significant systematic bias. The development of common calibrators and reference measurement procedures in collaboration with the reagent manufacturing industry should lead to standardisation of assays. Efforts to harmonise reference intervals, decision thresholds, reference change values and treatment targets are ongoing.

LABORATORY DETECTION OF BIOLOGIC THERAPY

Daman Langguth

SNP, Brisbane, Qld, Australia

Biologic drugs have revolutionised many medical conditions. Like all medicines there is a role for therapeutic drug monitoring

(TDM) with some agents in some conditions. The utility of TDM with biologic agents will be explored, covering methods of detection as well as the evidence that TDM is effective or otherwise.

BIOLOGICS IN IBD

Susan Connor

Liverpool Hospital, Liverpool, NSW, Australia

This talk will explain the current biologics and small molecules being used for inflammatory bowel disease, an increasingly prevalent disease in Australia, and the key role pathologists play in optimising biologic use for this patient population. The talk will also cover how we use biomarkers, particularly calprotectin, to facilitate IBD diagnosis and monitoring. The talk will be practical and simple.

HORMONE THERAPY IN TRANSGENDER ADULTS – GUIDELINES IN PRACTICE FOR PATHOLOGISTS

Ada S. Cheung

Department of Endocrinology, Austin Health, Department of Medicine (Austin Health), The University of Melbourne, Heidelberg, Vic, Australia

Transgender (trans) people include people with a binary (i.e., male or female) and non-binary identity and are one of the most marginalised groups in our community with a high burden of mental health conditions and suicidality. Due to discrimination, many fear healthcare settings. Acceptance, understanding and gender-affirming care can significantly improve distress and allay fear which is important even within pathology departments. Whilst phlebotomists will need to abide by policies for patient identification, an individual's preferred name and pronoun should be used in interactions. Legal sex as registered with Medicare may not reflect sex-assigned at birth or inform on use of feminising or masculinising hormone therapy which impacts upon sex-specific reference ranges (i.e., haemoglobin, eGFR). There are also impacts in anatomical pathology reporting such as in providing histology of reproductive organs which may not align with gender markers.

In the ideal setting, information including legal name, preferred name, sex-assigned at birth, gender identity and use of feminising or masculinising hormone therapy should be available to allow phlebotomists, pathologists and treating clinicians to provide gender-affirming care and clinically-relevant reports. Moreover, reporting of dual male and female sex-specific reference ranges may be useful for people who have recently commenced gender-affirming hormone therapy or in those using non-standard hormone regimens (i.e., low dose testosterone). Implementation of these changes presents a myriad of information system challenges but also an opportunity to ensure the highest standards of care for the Australian trans community.