AOTEA NEWS
- CLINICAL UPDATE
AOTEA PATHOLOGY
MARCH 2013

Changes to calculation of estimated GFR and corrected calcium

The equations used to calculate estimated GFR and corrected calcium will be changed at all laboratories in the Wellington region, from March 25th 2013.

1. eGFR. The equation currently used to calculate eGFR, the MDRD 175 equation, is known to suffer from imprecision and systematic underestimation, especially at values of 60ml/min/1.73m^2 and above. Thus, results above this level have not been reported numerically. Recently, a new equation has been developed and recommended for international use. This is the CKD EPI equation and all laboratories in New Zealand are switching to using it.

   The EPI equation has less bias and improved precision, so results for eGFR between 60 - 89ml/min/1.73m^2 will now be reported as the actual result. Results in this range will be slightly higher than if they had been reported with the previous equation and this will also be true for results under 60ml/min/1.73m^2. Thus, some people will now be recategorised to a higher CKD category. Results 90 and above will be reported as >/= 90ml/min/1.73m^2.

   Care needs to be taken with interpretation of results between 60-89ml/min/1.73m^2. These fit in the category of stage 2 CKD, but the international guidelines clearly state **that results in this range should not be considered to indicate CKD unless there are other pathological findings such as proteinuria, albuminuria or haematuria.** Laboratory comments will indicate this.

   Reporting of CKD class 3 [currently eGFR 30-59ml/min/1.73m^2] will also change. Stage 3a will be eGFR 45-59ml/min/1.73m^2 while stage 3b will be eGFR 30-44ml/min/1.73m^2. While eGFR < 60ml/min/1.73m^2 is associated with deteriorating renal function and all cause and cardiovascular mortality, many elderly subjects with stable eGFR and no other markers of renal disease have fallen in the range of what will now be classified as stage 3a. Some of these will now have eGFR in the 60-89 range, as calculated by the new equation, and should not be considered to have increased risk. Even in the range of stage 3a CKD there need not be urgent concern in these elderly subjects if eGFR is stable and there are no other indicators of renal disease. However assessment of risk, monitoring and appropriate management is required. For further information on interpretation of eGFR, management of classes of CKD and referral guidelines see
   http://www.kidney.org.au//LinkClick.aspx?fileticket=vfDcA4sEUMs%3d&tabid=635&mid=1584

2. The calculation for corrected calcium has changed to be consistent with the BCP assay for albumin that is now being used by all laboratories in the region. The terminology will also be changed from corrected calcium to the more appropriate term “adjusted calcium”. The overall effect will be that the adjusted values will be slightly lower than calculated with the previous equation.

Dr Michael Crooke
Chemical Pathologist
CCDHB and Aotea Pathology

Distributed March 2013