pathlab



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HbA1c Interpretation, TSH & Bone ALP

Issues With Interpretation Of HbA1c

HbA1c forms when glucose binds to adult haemoglobin (HbA_0). The amount of HbA1c that forms is proportional to the amount of glucose present and the duration that haemoglobin is present – HbA1c represents 'average glucose levels'. The average lifespan of red blood cells is about 120 days but if the lifespan is shorter or longer, HbA1c decreases or increases respectively.

Decreased lifespan of red blood cells: (HbA1c decreases in these cases)

- Haemolytic conditions e.g. auto-immune, spherocytosis.
- Presence of young red cells e.g. recent treatment of iron/folate deficiency, venesection for haemochromatosis or recent blood loss.
- Recent blood transfusion.

Increased lifespan of red blood cells: (HbA1c increases in these cases)

- Post splenectomy.

The presence of a haemoglobinopathy may interfere with measurement of HbA1c – this tends to be assay specific.

HBA1c should be regarded with suspicion in patients with abnormal haemoglobin / MCV or if HbA1c does not correlate with other findings. Contact the laboratory if more information is required.

Bone-ALP (B-ALP) & Procollagen Type 1 Amino-Terminal Propeptide (P1NP)

B-ALP is no longer available (withdrawn by supplier - indefinitely). P1NP is also a marker of bone formation, providing similar information and will be performed instead of B-ALP on all future requests.

TSH Reporting

Reporting of TSH has been reviewed. The lowest result that can be reliably reported is 0.02 mU/L, below this TSH will be reported as < 0.02 mU/L.

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CLINICAL UPDATE