An approach to anaemia diagnosis – concerns in primary care

To the Editor: O'Mahony *et al.*[1] raise some valid points in their letter published in the October *SAMJ.*

The CME focus[2] was on the approach to diagnosis in patients with anaemia, and so endeavoured to cover as wide a spectrum of causes as possible. As clarified in the preceding editorial,[3] detailed discussion on any particular cause/s was beyond the scope of the CME. More common scenarios in the primary care setting, such as anaemia of chronic disease and iron deficiency anaemia, warrant separate discussion on various platforms.

Peripheral blood microscopy in every case was not advocated in the CME, and is not the practice in our institution either. New-generation blood-counting analysers supported by sophisticated software obviate the need for microscopy in every sample with anaemia. However, microscopy provides invaluable information on flagged samples, hence its inclusion in the algorithm. The microscopy rate in smaller laboratories that serve primary care centres is generally higher.

On the suggestion of incorporating a biochemical approach to the algorithm, serum folate, vitamin B_{12} and ferritin levels as a starting point resonates a hit-and-miss practice that is likely to prove costly.

With regard to discriminating iron deficiency from anaemia of chronic disorders (ACD), soluble transferrin receptor testing is useful, but is *not* performed by the National Health Laboratory Service (NHLS). It consequently has limited accessibility in the South African (SA) context. Novel parameters generated by automated haematology analysers (such as the reticulocyte haemoglobin content (CHr or Ret-He)) are more widely available, but require insightful interpretation. In our experience, a low Ret-He (<28 pg) usually correlates with reduced/absent bone marrow iron stores in patients with normal/modestly elevated serum ferritin levels. In addition, low Ret-He levels are often noted among hospitalised patients with ACD (raised serum ferritin levels (>400 µg/L) and increased bone marrow iron stores), presumably owing to longstanding functional iron deficiency. As suggested by the authors, further assessment of these and other novel parameters would be useful in the primary healthcare setting.

Suspected tuberculosis (TB) and HIV require confirmation through appropriate investigations as mentioned by the authors. Caution is warranted in making a presumptive diagnosis of TB in HIV-positive patients without microbiological evidence, as opportunistic malignancies may have similar symptomatology and radiological findings (including the presence of splenic microabscesses).

As stated by the authors, there is no single approach that can fit all scenarios. A stepwise and systematic approach is therefore advocated in the SA setting, viz. a detailed history and a thorough physical examination, followed by laboratory investigations (as per clinical suspicion), including a full blood count.

The algorithm for investigation of anaemia uses the full blood count as the base with a specific focus on anaemia. However, it builds on the premise of accurate clinical information and relevant investigations (including laboratory, radiological, etc.) to arrive at the final diagnosis.

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1. O'Mahony D, Mntonintshi M, Parrish AG. An approach to anaemia diagnosis – concerns in primary care. S Afr Med J 2017;107(10):808-809. https://doi.org/10.7196/SAMJ.2017.v107i10.12147
2. Alli N, Vaughan J, Patel M. Anaemia: An approach to diagnosis. S Afr Med J 2017;107(1):23-27. https://doi.org/10.7196/SAMJ.2017.v107i1.12148
3. Alli N. Anaemia (part 1). S Afr Med J 2017;107(1):23-27. https://doi.org/10.7196/SAMJ.2017.v107i1.12147