

## Response to Comment on: “The evolution of the complete blood count: have we gone too far?”

by Marshall A. Lichtman and W. Richard Burack

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Response to Comment on: “The evolution of the complete blood count: have we gone too far?”

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#### Disclosures

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#### Contributions

MAL and WRB contributed equally to preparing this response.

We thank Professor Daniel Mazza Matos<sup>1</sup> for his thoughtful analysis of the proposal we have put forth to improve the impact and utility of the complete blood count (CBC) or hemogram.

We agree with his concern about diagnosing larval chronic lymphocytic leukemia (monoclonal B-cell lymphocytosis) when there is no therapy required and little risk of progression for the reasons he outlines. Since an abnormal white cell count has other possible explanations, one would have to be certain that the omission of detection of other abnormalities warrants not measuring the white cell count. The CBC composition containing the hemoglobin concentration, the white cell count and platelet count is one that we believe is adequate in an apparently healthy individual undergoing a medical examination. We think it improbable that these three variables will be normal in the presence of a significant abnormality of blood cells. We concur that this CBC could be omitted in the apparently healthy individual when a medical evaluation is being done for purposes unrelated to symptoms or signs of disease. In our article, we suggest that clinical studies could be done to determine if a CBC is warranted based on the advanced age (50 years, 60 years or older) of the apparently healthy individual.

We, also, herein reemphasize our principal goal: improve the utility of the CBC for the physician and the patient. Thus, we recommend (i) removing useless variables such as the percent of each leukocyte type and the white cell count when the individual absolute leukocyte counts are measured, (ii) removing redundant variables such as the red cell count and hematocrit when the hemoglobin concentration is measured, (3) removing very low impact variables such as the mean cell hemoglobin (MCH) and mean cell hemoglobin concentration (MCHC). These actions result in a CBC that has ten less variables without losing any important information. This provides the physician of any stripe with a more impactful result and reduces the clutter of the medical record. It, also, reduces the possibility that a patient will be burdened with a report of an out-of-range result and the physician will be burdened by having to explain the (in)significance of this out-of-range value to the patient.

We think that Professor Mazza Matos's letter has an important additional consideration as clinical laboratories design the CBC for their institution and thank him for extending the discussion on this matter.

#### Reference:

1. Matos DM. The evolution of the complete blood count: have we gone too far? Perhaps we have. Comment on: "The evolution of the complete blood count: have we gone too far?". Haematologica. **xxx**