

Red cell distribution width in subclinical hypothyroidism

Distribuição dos glóbulos vermelhos ampliada no hipotiroidismo subclínico

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We have read the article “The value of red blood cell distribution width (RDW) in subclinical hypothyroidism” by Hea Min Yu and cols. (1). They aimed to investigate the relationship between the subclinical hypothyroidism and RDW levels in a healthy population. They concluded that RDW levels were correlated with euthyroid and subclinical thyroid status.

This study gives important information on this clinically relevant condition. Thanks to the authors for their contribution. We think that some points should be discussed. Some markers have been found to be associated with early and late complications in many conditions. Inflammatory cytokines, high-sensitivity C-reactive protein (CRP), natriuretic peptides, neurohormones have recently established to be useful markers for diagnosis and prognosis in many diseases. However, these markers are very expensive and are not easily used in clinical practice. Elevated RDW is a measure of the variability in size of circulating erythrocytes and is expressed as the coefficient of variation of the erythrocyte volume. As several routine haematology instruments can analyse erythrocyte volume, RDW is available in most clinical settings. The ready availability of this parameter without additional cost may encourage its wider use in clinical practice.

Several studies have reported that elevated RDW levels are associated with poor prognosis in the setting of atherosclerosis, heart failure, stroke, peripheral arterial disease, older age (2). However, RDW may also reflect ethnicity, neurohumoral activation, renal dysfunction, hepatic dysfunction, nutritional deficiencies (i.e. iron, vitamin B₁₂, and folic acid), bone marrow dysfunction, inflammatory diseases, chronic or acute systemic inflammation (3) and use of some medications like antihypertensive therapy (4).

In addition, the authors used the formula developed and validated in the Modification of Diet in Renal Disease (MDRD) to estimate glomerular filtration rate (GFR). However, MDRD formula might measure higher GFR in younger age groups and lower GFR in older individuals compared to the Cockcroft-Gault equation (5). Although the Chronic Kidney Disease Epidemiology Collaboration (CKD-EPI) recently published an equation for GFR estimate using the same variables (serum creatinine level, age, sex, and race) as the MDRD formula, the CKD-EPI equation more accurately categorized the individuals with respect to long-term clinical risk compared with the MDRD formula (6).

As a conclusion, we strongly believe that the findings obtained from the current study will lead to further studies examining the relationship between inflammation and subclinical hypothyroidism (7). Not only RDW but also mean platelet volume,

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neutrophil lymphocyte ratio, CRP and uric acid are easy methods to evaluate the inflammation in patients with subclinical hypothyroidism (8). These markers might be useful in clinical practice (9). Finally, it would be better if the authors might define how much time between blood collection and arrival to the laboratory they specified on measuring RDW levels, because of the delaying blood sampling can cause abnormal results in RDW measurements.

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