Letter to the Editor

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The Association Between Arterial Stiffness and White Blood Cell Count: Missing Pieces of the Puzzle

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We read the article entitled "Total White Blood Cell Count is Associated with Arterial Stiffness Among Hypertensive Patients" by Huang et al.[1] with interest. These authors reported that the white blood cell (WBC) count is related to arterial stiffness, and macrovascular complication risk assessed by brachial-ankle pulse wave velocity and ankle brachial index is correlated with WBC count in patients with hypertension. These findings are valuable since they report an association between inflammation and arterial stiffness. We have some comments.

Different types of WBC have distinct effects in inflammation and atherosclerosis. While type 1 T helper cells promote atherosclerosis, regulatory T cells mitigate the process.[2-4] Therefore, it would be useful if WBC subtypes were considered.

Statins reduce inflammation resulting in decreased white blood cell count.[5] A meta-analysis also reported that statin use is associated with reduced arterial stiffness.[6] In the present study, medications were not assessed and statin use may be a confounding factor underlying the link between WBC count and arterial stiffness.

White blood cell count changes during infectious diseases, and it was reported that infections are associated with increased arterial stiffness possibly due to inflammatory processes.[7] Hence, it should be reported if patients with active infections were excluded.

In conclusion, several confounding factors, including medications and infectious diseases, may affect both WBC and arterial stiffness. These confounding factors should be taken into account during the assessment of the relationship between arterial stiffness and WBC count.

Author Contribution

All authors read and approved the final version of the manuscript.

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