NEUTROPHILS AND CORONARY HEART DISEASE

Since the early seventies the white blood cell count is regarded to be an independent risk factor for coronary heart disease.\(^1\) Plaque rupture with the formation of an occlusive thrombus is the proximate cause of acute coronary syndromes.\(^2\) Inflammatory cells are more frequently found in plaques vulnerable to rupture.\(^3\) Acute myocardial infarctions (MI) are accompanied by raised neutrophil counts.\(^4\) After acute MI neutrophils are the predominant inflammatory cell in the developing injury and the white blood cell count has prognostic importance\(^5\) for both for short and long term survival. A high inflammatory response at the MI is associated with higher inflammatory parameters in the recovery.\(^6\)

The article by Chavan et al.\(^7\) highlights a new exciting connection between neutrophils and acute coronary syndromes. The scientists behind the study measure intracellular constituents i.e., various hydrolytic enzymes of neutrophils in conjunction with acute MIs. It is a novel and very interesting approach. The paper demonstrates skilful performed biochemistry and for being a laboratory study it includes an impressive number of subjects. The authors describe enhanced intracellular concentrations of various hydrolytic enzymes in neutrophils in connection with acute MIs. Several explanations are possible. Examples include that neutrophils mobilized from external compartments contain more hydrolytic enzymes. It is also possible that neutrophils circulate with augmented enzyme content before acute MIs indicating enhanced reactivity. From a theoretical point of view the first option is interesting. If the second hypothesis is "true" elevated neutrophil reactivity may be a factor, which initiates acute MIs. Consequently, the current work stimulates further research. It is my sincere hope that the authors find possibilities to continue their work. Their research is important and could bring new even clinical important understandings of the roles neutrophils play in acute coronary syndromes.

REFERENCES

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