Platelet-Leukocyte Aggregate (PLA): A Novel Insight into Acute Coronary Syndrome Diagnosis

Code: 193

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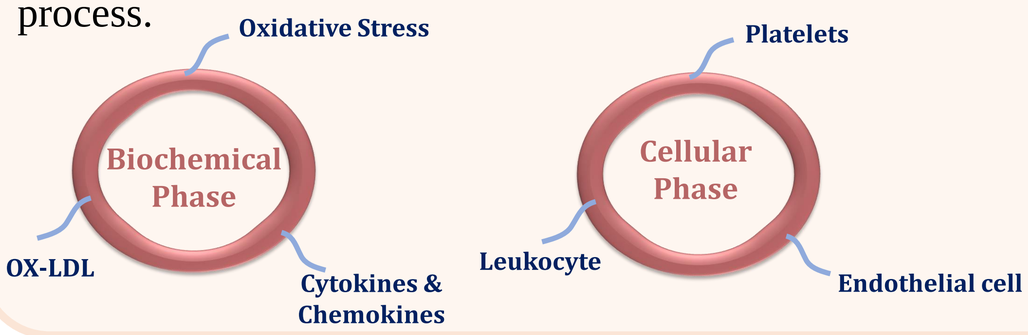
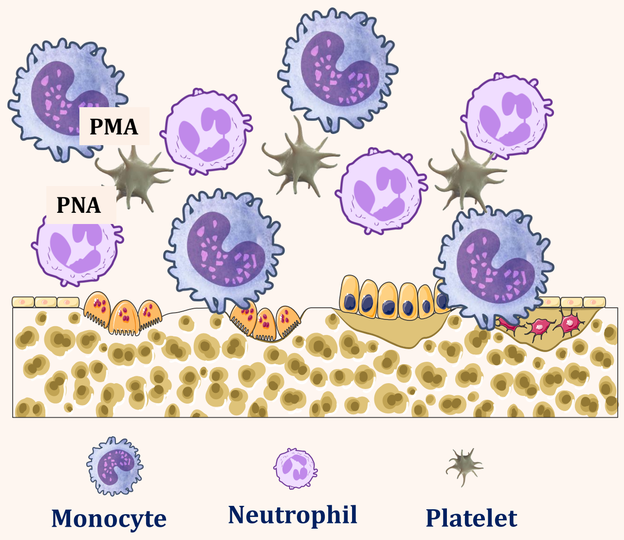
1 Introduction

The rupture of atherosclerotic plaques in coronary arteries is the fundamental pathophysiology of **acute coronary syndrome (ACS).** The biochemical and cellular phases can be considered the atherosclerosis process.





Aim of study:.

Investigate platelet-monocyte aggregate (**PMA**) and platelet-neutrophil aggregate (**PNA**) levels in ACS patient samples to discover potential **diagnostic markers**.

2 Methods

2.1. Study Design

Study Type:
A case–control study

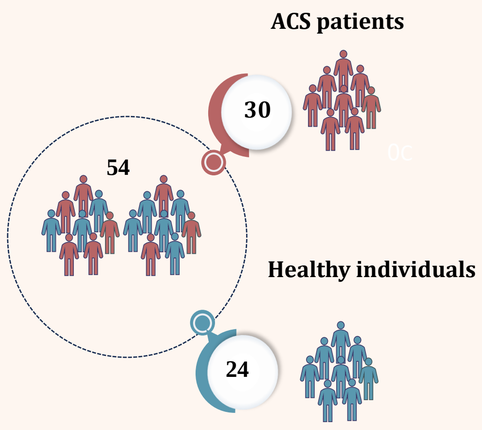
Date of Study:
August 13, 2023- January 9 2024

Location:
Taleqani Hospital in Tehran, Iran

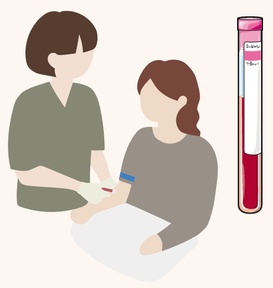
Disease Type:
ACS patients

Ethical Code:
IR.SBMU.RETECH.REC.1401.65

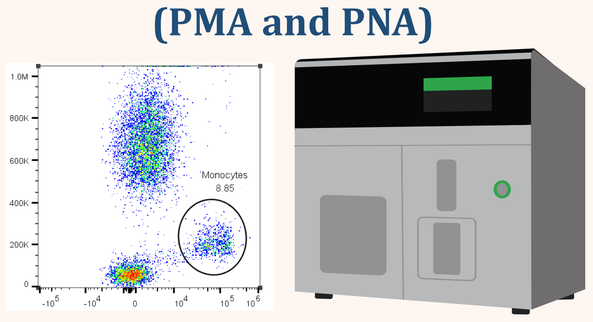
2.2. Population Study



2.3. Blood Sample Collection



2.4. Flow Cytometry Analysis (PMA and PNA)

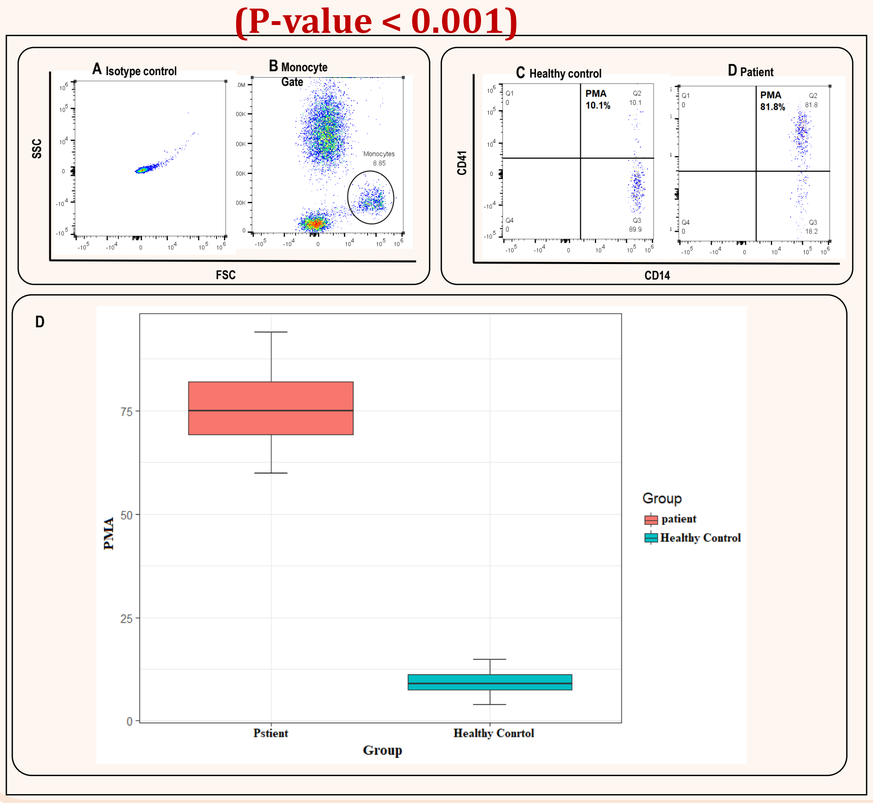


2.5. Statistical Analysis

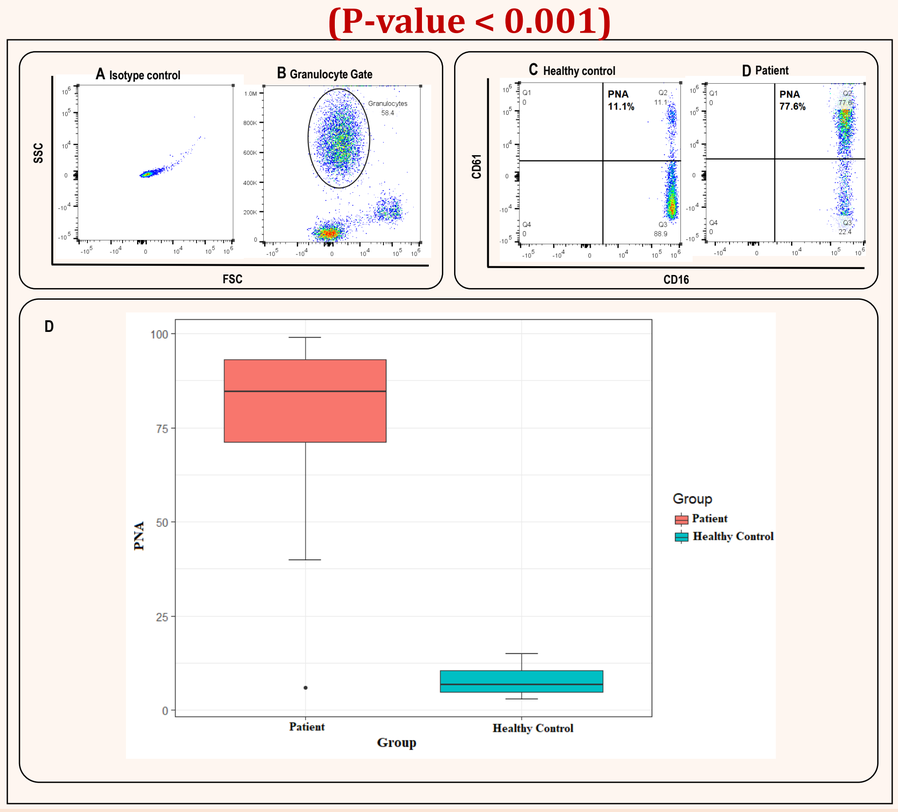
SPSS, $p < 0.05$
Student's t-test
Pearson's correlation coefficient
ROC curves

3 Results

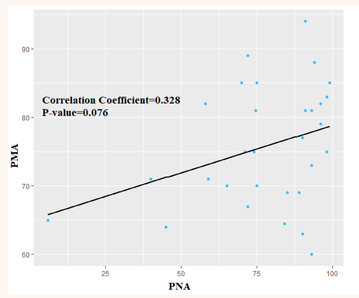
3.1. Increased PMA Formation (P-value < 0.001)



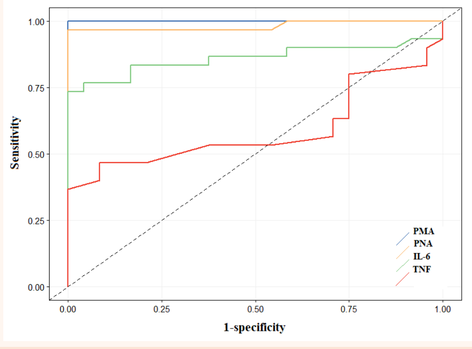
3.2. Increased PNA Formation (P-value < 0.001)



3.3. Correlation between PMA and PNA



3.4. ROC Curve and Diagnostic Value of PMA and PNA (AUC was 1 for PMA and 0.982 for the PNA)



4 Conclusion

In summary, **PMA** and **PNA** can serve as useful **diagnostic markers** in patients with **ACS**. Consequently, targeting the formation of PMA and PNA might provide innovative strategies for ACS treatment. Nevertheless, further research is needed to examine these parameters in the clinical diagnosis of ACS.

5 References

All 45 references are available in the article "**Platelet–Leukocyte Aggregate and Interleukin-6: An Emerging Perspective on a New Diagnostic and Therapeutic Clue for Acute Coronary Syndrome, A Case–Control Study".**

6 Acknowledgment

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