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## Role of ABO blood groups in prosthetic valve thrombosis

To the Editor,

We read with great interest the article published in *Anatolian Journal of Cardiology* by Astarcioglu et al. (1) entitled "ABO blood types: impact on development of prosthetic mechanical valve thrombosis." Several risk factors of prosthetic valve thrombosis (PVT) are well known. The search for new categories of risks should continue to refine even more the initial therapeutic decision in PVT. In this work, the authors evaluated the association between blood group status and PVT. They reported that patients with non-O blood groups have greater incidence of PVT compared with O blood groups. This result suggests that non-O group may be a risk factor that favors developing PVT.

It is increasingly recognized that individuals with non-O blood groups may be at elevated risk of venous and arterial thromboembolic events compared with individuals with blood group O. This increased risk has been attributed to higher concentrations of factor VIII and von Willebrand factor (2).

Recently, Vasan et al. (3) published a study of 1.5 million blood donors in which they investigated the association between ABO blood groups and incidence of first and recurrent venous thromboembolic and arterial events. They concluded that the study added strong evidence of a consistent association between non-O blood groups and both venous thromboembolism and cardiovascular events. Taking into account that non-O blood groups confer an overall increased risk of incident, recurrent, and provoked thromboembolism, ABO blood group may have a role in thrombosis risk assessment and could potentially be added to available clinical prediction systems (3).

In the last 4 decades, several studies have investigated the importance of ABO blood group as risk factor of occurrence of arterial thrombosis. In general, a significant increase in the incidence of ischemic heart diseases and cardiovascular mortality in patients with non-O blood groups has been observed (4). One mechanism proposed to explain the association between ABO blood type and ischemic heart disease is elevated serum fibrinogen level. Elevated fibrinogen level constitutes a valuable marker in diagnosis of PVT (5).

It is a fact that patients with non-O blood group have a higher risk of developing venous and arterial thromboembolic events than members of the O blood group.

This report is the first that shows the association between the ABO blood types and occurrence of PVT.

Despite its limitations and need to occur more evidence on this topic, think that non-O blood groups can convert is in an attractive biomarker prognosis for in development of PVT.

In agreement with the authors, I suggest using ABO blood types as a new factor in the stratification of risk of thrombosis in patients with prosthetic heart valve.

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## References

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DOI:10.14744/AnatolJCardiol.2017.7503

## Author`s Reply

Authors of this mentioned article did not send any reply for this Letter to Editor, in spite of our insistently request.

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