

The use of low molecular weight heparin during pregnancy in patients with mechanical heart valves carries potential risk for valve thrombosis

To the Editor,

We would like to comment on the recent article by Senol et al.^[1] reporting a series of three pregnant patients with prosthetic valve thrombosis (PVT). We appreciate this report since it emphasizes the importance of anti-Xa level monitoring in pregnant patients with prosthetic heart valves for the prevention of PVT. However, we feel there are some major drawbacks in the management of the three pregnant patients diagnosed with PVT.

Although no evidence based guidelines for pregnancies complicated with PVT^[2] are currently available, we have previously reported that low dose (25 mg) and slow infusion (6 hours) of t-PA is very safe and associated with very high thrombolytic success in this regard.^[3] In this single center prospective study including a relatively large number of pregnant patients with PVT, this strategy was associated with successful thrombolysis in all patients with lower maternal and fetal adverse events compared with surgery or anticoagulation based on the available published data. This strategy includes repeated doses of low-dose slow infusion of alteplase under the guidance of serial TEE. We also concluded that this should be the first-line therapy for pregnant PVT patients unless contraindicated^[3] since cardiac surgery exposes mother and the child to a greater risk than TT does.^[4] The very high success rate of TT in pregnant patients with PVT is explained by a rapidly developing and fresh nature of thrombus, which is making it prone to lysis.

Unfortunately, none of the three pregnant patients had undergone TT in the report by Senol et al. Furthermore, the third patient was initially followed by heparin despite obstructive PVT which may have easily progressed to stuck valve, and eventually became

more symptomatic with this strategy and underwent premature caesarian section followed by a valve replacement surgery. We believe that this is an aggressive approach for both the mother and the baby since surgery carries a high risk of complications and mortality depending on the functional status in patients with PVT. Moreover, this report suggests that TT should not be considered in this specific patient group, which is misleading. We believe that a report regarding the management of pregnant patients with PVT should almost always discuss the use of TT as a robust option rather than other strategies.

Sabahattin Gündüz, M.D., Mehmet Özkan, MD[#]

Department of Cardiology, Kosuyolu Kartal Heart Training and Research Hospital, İstanbul;

[#]Department of Cardiology, Kars Kafkas University, Kars

e-mail: sabahattin Gunduz@yahoo.com

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Authors' reply

We would like to thank Gunduz et al.^[1] for their comments on our article reporting a series of 3 pregnant

women with prosthetic valve thrombosis (PVT). Thrombolysis is a therapy used in our center for patients with PVT. Ozkan et al. has declared that the slow infusion of low-dose tissue-type plasminogen activator is an effective therapy in pregnant women

with PVT and with this protocol, the incidence of maternal and fetal adverse events is lower than that of with surgery or medical therapy based on the available published data.^[2] We agree with the authors suggesting that thrombolytic therapy is an effective option in pregnant women with PVT. However, it should be considered that thrombolytic therapy is relatively contraindicated in pregnancy and related with embolic (10%) and sub-placental hemorrhage risk and the administration of thrombolytic agents in such pregnant women is restricted.^[3] In addition, the risk of complications related to thrombolytic therapy increases in patients with a mobile thrombus, a large thrombus (> 0.8 cm² in area), and a history of recent cerebrovascular event.^[4,5] Guidelines suggest thrombolytics to be applied when surgery is not immediately possible in the treatment of PVT during pregnancy.^[3] In our pregnant cases, thrombolytic therapy was not considered the first option due to hemodynamic stability or the success of the anticoagulant strategies. We believe that the process of decision-making on the treatment plan of the pregnant women with PVT should include the participation of not only the patient but also family and relatives. We prefer thrombolytic therapy in pregnant women with severe hemodynamic disturbance or in whom surgery is risky. In our article, we tried to emphasize that the use of low molecular weight heparin without monitoring anti-Xa activity is objectionable in pregnant women with prosthetic heart valve.

Taner Ulus, M.D

Department of Cardiology, Faculty of Medicine,
Eskisehir Osmangazi University, Eskisehir
e-mail: tanerulusbuca@gmail.com

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