Letter to the Editor

A well validated risk stratification index predicts weak material and fetal outcomes in pregnant women with cardiovascular disease

1. To the editor

We have recently read with great interest the article by Khanna et al entitled "Maternal and fetal outcomes in pregnant females with rheumatic heart disease".[1] We appreciate the authors for their study describing the predictors of adverse cardiac events in pregnant women with valvular rheumatic heart disease. On the other hand, we believe that there are some major drawbacks that need to be addressed.

The CARPREG score was the first risk index to predict the likelihood of maternal cardiac complications from general maternal clinical and echocardiographic data obtained during the baseline antepartum visit and it has been widely used, independently validated.[2] According to this risk index; pregnant patients are scored with 3 if they have prior cardiac events or arrhythmias, baseline NYHA III-IV or cyanosis, and mechanical prosthetic heart valve (MPHV). The first and most obvious problem with this study is already evident in the abstract, where a study of 20 pregnancies with the MPHV is described. Unfortunately, when the current analysis of this study is examined in detail, it is clear that there are 6 patients with the CARPREG score of 3. However, there should be at least 20 patients with the CARPREG score of 3 when there are 20 patients with MPHV. This can be a little confusing among the readers.

Second, MPHVs are highly thrombogenic, and a pregnancy-induced procoagulant status increases the risk of MPHV thrombosis.[3,4] In the presented study, there were 20 (25%) patients who had pregnancy with the MPHV. No detailed information has been given about anticoagulation options in these patients' medical treatments. Moreover, no findings regarding MPHV thrombosis detected by transesophageal echocardiography examination were reported during follow-up. The readers may wonder whether the treatment regimens and MPHV thrombosis contributed the incidence of adverse cardiac events in these patients.

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Declaration of competing interest

All of the authors have no conflict of interest.

References

1. Khanna R, Chandra D, Yadav S, et al. Maternal and fetal outcomes in pregnant females with rheumatic heart disease. *Indian Heart J.* 2021;73:185−189.
2. Silversides CK, Grewal J, Mason J, et al. Pregnancy outcomes in women with heart disease: the CARPREG II study. *J Am Coll Cardiol.* 2018;71:2419−2430.
3. Güner A, Kalçık M, Gürsoy MO, et al. Comparison of different anticoagulation regimens regarding maternal and fetal outcomes in pregnant patients with mechanical prosthetic heart valves (from the multicenter ANATOLIA-PREG registry). *Am J Cardiol.* 2020;127:113−119.
4. Özkan M, Çakal B, Karakoyun S, et al. Thrombolytic therapy for the treatment of prosthetic heart valve thrombosis in pregnancy with low-dose, slow infusion of tissue-type plasminogen activator. *Circulation.* 2013;128:532−540.

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