International Journal of Reproduction, Contraception, Obstetrics and Gynecology
Priya MP et al. Int J Reprod Contracept Obstet Gynecol. 2022 Aug;11(8):2264-2266
www.ijrcog.org
pISSN 2320-1770 | eISSN 2320-1789

DOI: https://dx.doi.org/10.18203/2320-1770.ijrcog20221950

Case Report

A rare case of multiple thromboembolic events following valve replacement in pregnant women with rheumatic heart disease

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Received: 04 May 2022
Revised: 12 July 2022
Accepted: 13 July 2022

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ABSTRACT

Pregnancy is a hypercoagulable state. Women with mechanical valve replacement done falls under WHO 3 risk. Effective anticoagulation therapy is mandatory. Oral anticoagulants offer the best maternal protection against thrombosis, but associated with risk of fetal malformations and pregnancy loss. Oral anticoagulants offer the best maternal protection against thrombosis, but associated with risk of fetal malformations and pregnancy loss. A 26 years old primigravida, known case of rheumatic heart disease (RHD) since 11 years, post mechanical mitral valve replacement for severe mitral stenosis, referred with left upper limb ischemia, at 9 weeks gestation and managed accordingly.

Keywords: Anticoagulants, Pregnancy, Warfarin

INTRODUCTION

Pregnancy itself is a hypercoagulable state. Women with mechanical valve replacement done falls under WHO 3 risk category.[1] Effective anticoagulation therapy is mandatory for these women. The risk of warfarin-related embryopathy in pregnant women is dose dependant (teratogenic if used >5 mg/day).[2,3] No clear consensus exists on the anticoagulation strategy for these women, owing to the paucity of data that can guide therapeutic decisions. Cardiac and obstetric care teams need to work collaboratively to help these patients make personalized decisions that consider the risks and benefits of various therapies.

CASE REPORT

A 26 years old primi with 9 weeks of gestation referred from a hospital in view of left upper limb ischemia. She is a k/c/o RHD since 11 years of age and mitral valve replacement (mechanical valve) done in 2008 in view of severe mitral stenosis, patient was on oral anticoagulant warfarin 2 mg since surgery and her INR was maintained in the therapeutic range. History of TIA one year back. As pregnancy was diagnosed, she was switched over to injection LMWH at 6 weeks of gestation. Three weeks later, she developed weakness of both left UL and LL with slurring of speech. ECHO-increased mitral valve pressure gradient. MRI imaging done-right capsulo ganglio infact, diagnosed as acute ischemic cardio embolic stroke for with thombolysis done. After thrombolysis procedure, patient developed pain and swelling over left upper limb with decreased pulse volume.

Management

On admission, ECHO-s/p MVR, global hypokinesia of LV, LVEF-40%, moderate to severe PHTN, no vegetations or clots noted, paravalvular leak+. Left brachial embolectomy was done. Higher antibiotics was given, cardiac drugs and oral antiepileptics were continued, injection enoxaparin 0.4 mg SC BD, tablet aspirin 75 mg OD, tablet atorvastatin 10 mg HS, tablet clopidogrel 75 mg were continued. Medical termination of

pregnancy done on therapeutic ground. Right upper and lower limb weakness improved, patient switched over to warfarin therapy. Therapeutic level of INR achieved. Risk of materal mortality in future pregnancy explained and patient discharged.

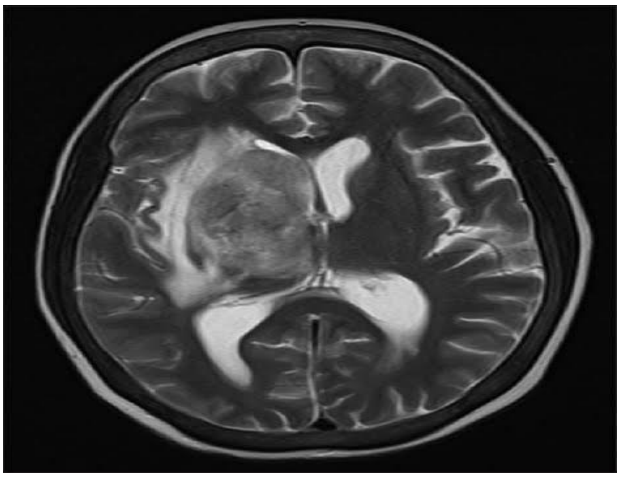

Figure 1: MRI picture showing right gangliocapsular infact.

DISCUSSION

In this case report, the patient was switched over to heparin from warfarin in her first trimester. From the above case report it was evident that the importance of prior thomboembolic event played major role in anticoagulation therapy in prosthetic valve patients. Optimal therapeutic dose of heparin, compliance of the patient also played major role before switching the patient to heparin therapy.[4] In the study conducted by Chan et al the overall risk of fetal losses was similar in all the three groups (group who continued warfarin throughout pregnancy, group who switched to heparin throughout pregnancy, group who swithed to heparin in 1st and late 3rd trimester).[5] But the thromboembolic events were reduced in the group who were on warfarin throughout the pregnancy.[5] In the study conducted by Keepanasseril et al 2 patient received warfarin >5 mg/day developed warfarin embryopathy and thromboembolic events were reported in mothers who received subtherapeutic dose of heparin in first and late third trimesters.[6] In the study conducted by Nadeem et al no warfarin embryopathy was reported in patients who were on warfarin >5 mg/day.[7]

CONCLUSION

Anticoagulation therapy in pregnant women with mechanical prosthetic valve is still challenging. Warfarin offers the best maternal protection against thrombosis, but their use might be associated with an appreciable risk of fetal malformations and pregnancy loss. The risk of warfarin-related embryopathy in pregnant women is dose dependant (teratogenic if used >5 mg/day). In contrast, heparin derivatives are associated with a reduced risk of fetal damage, but an increased risk of valve thrombosis in the mother, even with appropriate dose adjustment and monitoring of therapeutic efficacy. Several treatment options were proposed, none of which are completely ideal.

Recommendations

Finally, 4 regimens were recommended. These four recommended regimens depends on patient medical conditions-start SC. LMWH 12th hourly, 4 hours post injection, do anti Xa fatctor-(1-1.2 u/ml). Around time of planned delivery, switch to IV UFH infusion, stop infusion at the onset of labour or 4 hours before caesarean section. Postpartum-start anticoagulant therapy with heparin-6 hours after vaginal delivery, 6-12 hours after caesarean section, 24 hours after major surgical procedures. Start SC UFH 12 hourly, monitor APTT. Mid interval APTT atleast 2× control or peak anti Xa-0.35 to 0.7 u/ml. Around time of planned delivery, switch to IV UFH infusion, stop infusion at the onset of labour or 4 hours before caesarean section. Postpartum-start anticoagulant therapy with heparin-6 hours after vaginal delivery, 6-12 hours after caesarean section, 24 hours after major surgical procedures. Start LMWH/UFH 12th hourly till 12 weeks, then swith to warfarin from 13 weeks to mid 3rd trimester, maintain INR between 2.5-3.5. From MID 3rd trimester, stop warfarin, switch over to LMWH/UFH12 hourly. Around time of planned delivery, switch to IV UFH infusion, stop infusion at the onset of labour or 4 hours before caesarean section. Postpartum-start anticoagulant therapy with heparin-6 hours after vaginal delivery , 6-12 hours after caesarean section, 24 hours after major surgical procedures. Continue warfarin throughout the pregnancy till late 3rd trimester, maintain INR 2.5-3.5. Around time of planned delivery, switch to IV UFH infusion, stop infusion at the onset of labour or 4 hours before caesarean section. Postpartum-start anticoagulant therapy with heparin-6 hours after vaginal delivery, 6-12 hours after caesarean section, 24 hours after major surgical procedures.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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Cite this article as: Priya MP, Janakiraman P. A rare case of multiple thromboembolic events following valve replacement in pregnant women with rheumatic heart disease. Int J Reprod Contracept Obstet Gynecol 2022;11:2264-6.