Outcomes in pregnant women with valvular heart disease from sub Saharan Africa transferred to a developed nation. A distinct care model

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Background: Pregnant women with valvular heart disease (VHD) in African countries still bear a disproportionate burden of maternal morbidity and mortality, due to the reduced accessibility to health care and the scarcity of skilled professionals. It is unclear if outcomes would be improved by care-delivery model changes.

Purpose: We performed a clinical audit of African pregnant women with VHD who were transferred for their care from five countries to our cardio-obstetrics unit, during a twenty-year period, through a memorandum of agreement of international cooperation.

Methods: A retrospective analysis of 81 pregnancies (P) in 45 African women with VHD (median age 24, IQR 22–29 years) from 2001 to 2020. The main outcome measures were major maternal complications and perinatal outcome.

Results: History of rheumatic heart disease was determined in 74.1% of the P. Most women were in NYHA I or II before P (79.0%), 43.2% had previous cardiac medication and 60.5% were anticoagulated (33.3% with acenocoumarol and 27.2% with warfarin). 59.3% of P had at least one valvular prosthesis, including 38 mechanical prosthetic valve (MPV) and 10 biological valves. 22.2% had prior surgical or percutaneous VHD correction, excluding prosthesis implantation. At baseline, impaired left ventricular ejection fraction was found in 12.3%. Previous arrhythmic event, stroke or infectious endocarditis were found in 12.3%, 8.6% and 6.2% of P, respectively.

During P, deterioration in NYHA functional class occurred in 42.0% and 9.9% required initiation or intensified cardiac medication. For MPV, 51% maintained a vitamin K antagonist, 15.7% used LMWH from 6 to 12th weeks and 9.8% used LMWH throughout P. Valve thrombosis occurred in 4 women (4.9% of P), with one maternal death in a patient with double MPV. Hemorrhagic complications happened in 8.6% of P, all anticoagulated, in immediate postpartum or puerperal period. The 81 P resulted in 56 live births (69.1%), with a medium birth weight of 3026±471g. Delivery by caesarean section was performed in 28.3% of newborns. The incidence of miscarriage was 23.5% and fetal malformations occurred in 14.8%, with warfarin embryopathy in 4 cases. In univariate analysis, the presence of valvular protheses (p=0.001), and anticoagulation (p=0.001) were related to unsuccessful P. In multivariate analysis, VKA therapy was the unique independent predictor of unsuccessful P (p=0.048).

Conclusion: With the multidisciplinary care provided, pregnancy was relatively well tolerated and successful for women transferred from sub-Saharan Africa. However, the presence of a valvular prosthesis is associated with unsuccessful pregnancy even in a developed nation. Efforts other than the implantation of a MPV should be pursued vigorously in sub Saharan Africa.