

We read with interest the paper by Bhagra<sup>1</sup> and wish to add further information from two recent publications which emphasise the key points that ‘pregnancy in women with mechanical heart valves is high risk’ and that ‘a multidisciplinary team approach to the management of pregnant women with PHV is necessary to ensure optimal outcomes’.

A recent prospective observational national study of women in the UK with pregnancies between February 2013 and January 2015, estimated the incidence of MPHVs in pregnancy to be 3.7 per 100 000 and described high rates of maternal mortality (9%), serious maternal morbidity (41%) and poor fetal outcomes (47% of the cohort and 35% of those reaching the third trimester)<sup>2</sup>. These complication rates are higher than previously described in the literature. This may be because the validated methodology resulted in less reporting bias; or because of variation in the quality of care women received; or the anticoagulation regime used. In this study 71% of women used low molecular weight heparin (LMWH) throughout pregnancy, whereas those in studies described by Bhagra mainly used warfarin, either throughout, or during the second and third trimesters of pregnancy. The UK study highlighted considerable variation in dosing and monitoring regimes, and that the recommended weight based starting dose of LMWH<sup>3</sup> appeared to be insufficient.

The 2016 MBRRACE maternal mortality report highlighted the increasing incidence of maternal death associated with MPHVs in pregnancy with seven deaths between 2009-2014<sup>4</sup>. The morbidity study within this report showed that fewer of the women who died were assessed as having received ‘good care’ than those who survived (27% compared with 53%). This also showed that in 47% of the women who survived, the Confidential Enquiry reviewers identified areas where improvements in care could have been made.

We emphasise the need for contemporaneous data so that clinicians can provide women with MPHVs who are considering pregnancy, appropriate information on the risks involved.

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1 Bhagra CJ, D’Souza R, Silversides CK Valvular heart disease and pregnancy part II: management of prosthetic valves *Heart* 2017;103:244–252. doi:10.1136/heartjnl-2015-308199

2 Vause S, Clarke B, Tower CL, Hay CRM, Knight M (on behalf of UKOSS). Pregnancy outcomes in women with mechanical prosthetic heart valves: a prospective descriptive population based study using the United Kingdom Obstetric Surveillance System (UKOSS) data collection system. *BJOG* 2016; DOI: 10.1111/1471-0528.14478.

3 BNF Joint Formulary Committee. British National Formulary, 69th edn. London: BMJ Group and Pharmaceutical Press, 2015.

4 Knight M, Nair M, Tuffnell D, Kenyon S, Shakespeare J, Brocklehurst P, Kurinczuk JJ (Eds.) on behalf of MBRRACE-UK. Saving Lives, Improving Mothers’ Care - Surveillance of maternal deaths in the UK 2012-14 and lessons learned to inform maternity care from the UK and Ireland Confidential Enquiries into Maternal Deaths and Morbidity 2009-14. Oxford: National Perinatal Epidemiology Unit, University of Oxford 2016.