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Cardiovascular disease in pregnancy

Cardiovascular disease (CVD) leads to complications in 1% - 4% of all pregnancies globally and is the largest contributor to indirect maternal deaths. Symptoms and signs of heart failure are often masked by pregnancy, which could also cause shortness of breath and oedema and, thus, timely diagnosis of CVD and referral to an appropriate level of care may be delayed. In southern Africa, CVD is an especially complex issue which is usually underdiagnosed due to a lack of awareness, poor management because of limited resources and insufficient research. In sub-Saharan Africa (SSA) hypertensive and rheumatic heart disease, as well as cardiomyopathies, especially peripartum cardiomyopathy (PPCM), are major contributors to CVD in the peripartum period. Additionally, undetected/untreated congenital heart disease presents an important challenge.

The 5th Annual Cape Town Cardiac Disease in Pregnancy Symposium (Figure 1) took place in September 2021 at the Cape Heart Institute, Department of Medicine, Faculty of Health



FIGURE 1: 5th Annual Cape Town Cardiac Disease in Pregnancy Symposium participants at the lunch break.

Sciences, University of Cape Town (UCT). Considering the situation of maternal morbidity and care relevant to SSA, the focus of this symposium was the recent advances in female heart disorders during maternity. The aim was to provide up-to-date information on physiological changes in pregnancy, cardiac diseases in maternity, the pathological mechanisms, diagnosis, and state-of-the-art management. Further, the annual Cape Town Cardiac Disease in Pregnancy Symposium's goal is to share local research in the field and promote and encourage research and collaborations.

This face-to-face event was convened by Prof Karen Sliwa, Director of the Cape Heart Institute at UCT. The 2-day academic programme combined a broad spectrum of clinical and basic science topics with an impressive line-up of cardiac and/or maternity specialists from South Africa, Mozambique, Botswana, and Uganda. The symposium was attended by more than 50 participants, including cardiologists, internal medicine specialists, obstetricians, intensivists, basic scientists, and postgraduate students.

Dr Haroun Rhemtula (Principal Specialist Obstetrician and Gynaecologist at the University of the Witwatersrand Medical School), opened the symposium with an informative lecture entitled "The heart of the matter". Prof Priya Soma-Pillay (Head of Obstetrics and Gynaecology at the University of Pretoria and Steve Biko Academic Hospital) presented new data on the interlinkage between climate change and pregnancy. Two dedicated lectures on congenital heart disease and the transition of care in women with congenital heart disease coming to reproductive age were provided by the UCT's Prof Karen Sliwa (Director, Cape Heart Institute) and Prof Liesl Zühlke (Department of Paediatric Cardiology at Red Cross Hospital).

Dedicated sessions on echocardiography and the safety of various imaging modalities were given by Dr Blanche Cupido and Prof Ntobeko Ntusi (Department of Medicine, UCT and Groote Schuur Hospital – GSH). These lectures provided an overview on a variety of cardiovascular imaging modalities available for pregnant women to confirm the diagnosis, to assess disease severity and stratify risk, to prognosticate, to plan for appropriate management and to assess response to therapy. One feature was about safety counselling of the women and the need to balance the goals of beneficence with avoidance of harm to the mother and foetus (Figure 2).



FIGURE 2: Participants and speakers of the 5th Annual Cape Town Cardiac Disease in Pregnancy Symposium.

Prof Haroun Rhemtula (Keynote speaker) and Prof Karen Sliwa (Organiser).

Prof Ntobeko Ntusi (Head, Department of Medicine, UCT).

Dr Julius Mwita and Professors Liesl Zühlke, Ana Mocumbi and Karen Sliwa.

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FIGURE 3: Faculty dinner at Kirstenbosch gardens.

Prof Ana Mocumbi and Prof Albertino Damasceno (Faculty of Medicine at Eduardo Mondlane University, Maputo, Mozambique) provided overviews on hypertensive disorders of pregnancies and reported on the successes in improving peripartum cardiac care in Mozambique.

There were translational lectures by Prof Mushi Matjila (Department of Obstetrics and Gynaecology, UCT and GSH) on the pathophysiology of pre-eclampsia and Prof Justiaan Swanevelder (Head, Department of Anaesthesia, UCT and GSH) on managing perioperative hypotension and the use of extra-corporal membrane oxygenation (ECMO). Prof Friedrich Thienemann (Director, General Medicine & Global Health Group, Cape Heart Institute, UCT) provided a thought-provoking overview on ethical challenges and the dilemmas of triage in patients with tuberculosis and pregnancy.

The final and very interactive session was on clinical scenarios of cardiac disease in pregnancy. This included challenging peripartum cases from Botswana (Prof Julius Mwita), from South Africa (Dr Julian Hoevelmann, Dr Charle Viljoen and Prof Ashley Chin) and a talk on complex anaesthetic case examples by Dr Dominique van Dyk (Department of Anaesthesia, GSH).

The 2-day symposium provided an exciting learning opportunity for all attendees and post-graduate students. The rich content of the programme led to this special issue which covers several the topics presented at the symposium.

We trust that this informative special issue will be of interest to you.

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