

Profile

Karen Sliwa: cardiology from the heart of South Africa

When Karen Sliwa moved from Germany to take up a position in internal medicine at Soweto's Baragwanath Hospital in 1992, South Africa was in a turbulent state: Nelson Mandela had recently been released from prison, yet the nation's first democratic elections were still 2 years away. "That really was an extraordinary introduction to South Africa", Sliwa recalls. "At Baragwanath we really were on the front line, dealing with appalling injuries and gunshot wounds arising from the unstable political situation, amid a background of a tuberculosis epidemic. But I loved my time there, thriving on the chaos, it was an incredible training ground for a young doctor", she says.

Today, Sliwa enjoys a calmer (if no less busy) existence as Director of the Hatter Institute for Cardiovascular Research in Africa, where she is also Professor of Cardiovascular Research at the University of Cape Town, her home for the past 4 years. At the Hatter Institute she heads up a research laboratory where clinicians and basic science researchers work on key research priorities, including cardiomyopathies, rheumatic heart disease, the effect of HIV on the heart, pulmonary hypertension, and hypertensive heart disease. She combines this with work as a clinical cardiologist in a specialist clinic for pregnant women with heart disease at Groote Schuur Hospital, working closely with the head of obstetrics. "Heart problems in pregnancy are common", she explains. "We tackle the problem holistically with a specialist team. We identified a gap in postpartum care, so we bridge this gap by seeing mothers and babies two or three times after delivery. For me this is the joy of clinical work overlapping with research, as I document each case, collect plasma and DNA, for use in translational research programmes."

Her research at the University of the Witwatersrand in Johannesburg culminated with the Heart of Soweto Study, published in this journal in 2008. This epidemiological research highlighted a high prevalence of modifiable risk factors for cardiovascular disease in a predominantly urban, black African population. Today, Sliwa prefers to think of cardiovascular research in South Africa with more of a clinical focus. "We know the major problems of cardiovascular disease in this continent. What we need are the solutions, not further documentation of the problems of hypertension, obesity, and related lifestyle factors", she says emphatically.

Peripartum cardiomyopathy is undoubtedly a subject close to Sliwa's heart, and her research in this field over the past two decades has helped identify an underlying mechanism (a form of prolactin which exerts a detrimental effect on heart muscle), and a straightforward intervention (withdrawal of breastfeeding in addition to standard heart failure care). Her current research priority is to identify biomarkers to facilitate early diagnosis and better management. This work is valued

by colleagues, as Bongani Mayosi, Head of Medicine at Groote Schuur Hospital in Cape Town, comments: "During her time in South Africa, Karen discovered that very little was known about the causes and treatment of postpartum cardiomyopathy, and her tireless work to date has led not only to the characterisation of this disease, but to new and novel treatments for it."

Sliwa's life journey has taken her to far-flung locations, and without her ever being entirely clear how she wanted to spend her professional life. She recalls a 5-day train journey from Berlin to Vladivostok when she was just 5 years old, as her biologist father moved the family to Japan where he headed up a rice research programme; later, she travelled as a teenager by train in Europe, and pondered a range of career choices, including social work and law, before choosing to study chemistry at Berlin's Free University. "In the end I chose chemistry because I was no good at it, though thought it would give me a good grounding in science", she says. But a serious accident to a chemist friend in the lab curtailed her interest, and took her to medical school. "I hated being a medical student", Sliwa says. "The teaching of medicine was appalling. Huge classes of students, no chance to get to know the staff, and all remote learning and multiple choice testing. But once I went abroad on electives and saw physicians who were passionate about their work, often working in incredibly tough conditions with poor equipment, medicine suddenly made sense", she says.

Her move into cardiology came later. Sliwa initially anticipated working on infectious diseases, having written a thesis on leishmaniasis after postgraduate study at Berlin's Institute for Tropical Diseases. But South Africa called, offering a position for her orthopaedic surgeon husband, and for Sliwa the offer of an internal medicine post at Baragwanath Hospital. "When I was doing rotations in internal medicine, cardiology was the subject I liked the least", she says, "which meant I had to work really hard to pass the exam". Her interest in peripartum cardiomyopathy led to a PhD in the subject, from the University of the Witwatersrand in 2002, and she subsequently became a cardiologist.

Sliwa sees herself continuing to divide her time between academia and clinical work. "These days I am very lucky, I can choose carefully the research programmes and meetings that I want to participate in", she says. Her thirst for travel remains undiminished; with her husband and two daughters she always travels to two African countries every year, combining work and holiday. "This year it will be Cameroon and Zambia", she says. "There is still so much to discover in this beautiful continent that is Africa."

Richard Lane



For the Hatter Institute for Cardiovascular Research in Africa see <http://african-heart.org/>

For the Heart of Soweto study see *Lancet* 2008; 371: 915-22