Multidisciplinary Care of Pregnant Women with Cardiovascular Disease

Laith Alshawabkeh: Thank you, Louise. Thank you for organizing committee for inviting me. This is wonderful. Now you, get to listen to a cardiologist. This is very exciting since I've been here nine years at UCSD, and immediately after we launched the UCSD program, we recognized the importance of collaboration between MFM and cardiology.

We know from numerous epidemiologic studies that cardiovascular disease is the number 1 cause of peripartum death. If you notice here, it's not just the other cardiovascular, you have cardiomyopathy. You have also included cerebrovascular accidents, as well as hypertensive disorders of pregnancy. It's by and large the number 1 killer of women in the peripartum period. That has to do with both access but also delivery of care, where women who are seemingly stable experience deterioration immediately after arrival to the hospital due to healthcare system inequities for caring for women with pre-existing cardiovascular disease.

The motivation was a growing need. There was a rising referrals to UCSD as a quaternary center for women from all over Southern California who have pre-existing cardiovascular disease desiring a continuation of pregnancy. We launched the ACHG program back in 2017. These are people born with congenital heart disease at the turn of the century. They underwent lifesaving operations, and now the vast majority survive into adulthood with a median age currently in our clinic of 33. Half of them are women in childbearing age. That created a huge influx of patients to the OB department.

In January 2020, we came together, my partner in crime with Dr. Tarsa. She had to go to a meeting, as well as the rest of the multidisciplinary team, and we officiated the cardio obstetrics initiative as a grassroot out of necessity endeavor. This is the first and only initiative south of LA of its kind, and we pride ourselves here at UCSD that we take any type of insurance. For the trainees here in the audience, this is huge and monumental, as opposed to other centers who have such specialized programs but don't take care of Medicaid patients. We have patients that come from all over Southern California.

The primary goals were to reduce cardiovascular mortality within our reach. Improve the outcomes of maternal-fetal outcomes in the prepartum period through coordinated multidisciplinary protocolized care that is not dependent on the presence of a singular individual at the time of arrival of the patient. At the same time, advanced research in the prepartum cardiovascular outcomes, and obviously, enhance the education of our fellows, trainees, and students in this important and emerging subspecialty.

After launch in 2020, we also expanded to other specialties within OB and also, cardiovascular division. In 2021, we started the cardio pregnancy longitudinal surveillance study that is ongoing. By early 2024, we had 167 very high risk successful deliveries here at UCSD. That was a 500% increase of the previous year, and we continue to incorporate trainees into our abstracts and presentations. Now, we routinely care, anywhere between 3-5 women in any given week with very high risk cardiovascular disease, a UCSD.

Out of those patients, the vast majority have congenital heart disease, but many have heart failure. Heart failure epidemiology is highly variable depending on the state and the geographic area of the United States. But also we have other rare arrhythmias and coronary artery disease issues. The vast majority of these women will deliver at gestational age, but we have up to 20%, depending on the complexity of cardiovascular disease. We'll have premature delivery. Obviously, women who have complex cardiovascular disease will be on blood thinners and have other blood disorders that contribute to blood loss at the time of delivery.

We pride ourselves that we have significantly lower maternal mortality. For women with cardiovascular disease compared to major academic centers, despite caring for a large proportion of end-stage or complex forms of congenital heart disease. We have a slightly higher incidence of congenital heart disease in the offspring than they reported in the literature of 5%, and that's worthy of further investigation. We also are working towards closer cardiovascular telemetry monitoring in the prepartum period here, working with our hospital.

We're open to collaboration, and we welcome any involvement from trainees, faculty, and any other multidisciplinary teams. Thank you.