Advances in research into pregnancy complications caused by two serious autoimmune diseases were discussed by one of the world’s foremost experts in the field in the fourth installment of Weill Cornell Medical College in Qatar’s (WCMC-Q) Grand Rounds.

Visiting speaker Dr. Jane Salmon, Professor of Medicine at Weill Cornell Medical College in New York (WCMC-NY), discussed the discoveries made through her research team’s experiments on mice, which have revealed the underlying mechanisms of poor pregnancy outcomes in women with the chronic autoimmune disorders lupus and antiphospholipid syndrome.

The Grand Rounds, developed by WCMC-Q’s Division of Continuing Professional Development, brings expert speakers to the college to engage with healthcare professionals in the community to disseminate knowledge of the latest developments in medical technology, research and best practice.

Lupus, which primarily affects women, is a disorder in which the immune system damages healthy tissues throughout the body, such as the skin and joints, and sometimes the internal organs. The precise cause of this often painful and distressing condition is unknown and there is no cure, although there are some medicines that can control the symptoms. Antiphospholipid syndrome is an immune disorder that causes blood clots and is associated with complications in pregnancy. It can occur on its own or in association with other diseases, including lupus. Both conditions can cause serious complications in pregnancy, both to the mother and the unborn child.

Dr. Salmon, who is also Professor of Medicine in Obstetrics and Gynecology at WCMC-NY and the Collette Kean Research Chair at Hospital for Special Surgery, said: “Until recently, the advice for women with lupus was simply to not get pregnant because of the concern the disease could flare and lead to serious problems for the mother and the baby, including pregnancy complications such as placental insufficiency, fetal growth restriction and even complete loss of the pregnancy. The guidance was to avoid pregnancy but this recommendation was not based on strong data.”

Dr. Salmon also said that pregnant women with lupus had a higher risk of suffering preeclampsia, a condition characterized by high blood pressure that can lead to serious complications and sometimes necessitates premature delivery of the baby. Dr. Salmon led a study that followed 700 patients through pregnancies to identify factors that predicted their outcomes. Fortunately, explained Dr. Salmon, better understanding of the disease has led to new advice, which recommends that many patients with lupus can safely carry babies to full term. Pregnancy should be planned carefully at time when lupus disease is quiescent and in close consultation with an obstetrician and a rheumatologist who specializes in pregnancy care.
In a series of experiments in pregnant mice, Dr. Salmon’s laboratory was able to prove that inflammation, not thrombosis, prevents the normal formation of blood vessels to the placenta, which are required to nourish the developing fetus. The compromised placental development leads to restricted fetal growth, preeclampsia and miscarriage. Her studies showed a strong association between alterations in the balance of blood vessel-forming factors early in pregnancy and subsequent pregnancy complications. This discovery has a direct clinical application because it points the way towards the development of a test that physicians could use to detect pregnancy complications in women with lupus and antiphospholipid syndrome at a very early stage, when interventions might be possible.

The research also presents targets for the development of new therapies.

Importantly, these discoveries for lupus pregnancies are also likely to impact women without autoimmune diseases. Preeclampsia, which occurs in up to four percent of first pregnancies in the general population, is more common in women with diabetes and hypertension. It is a common cause of maternal and fetal death throughout the world, and there are no treatments. Tests to identify pregnant women at high risk and treatments to prevent such complications in lupus patients are likely to also help the general population where the need remains great.

Following her presentation, Dr. Salmon engaged in a Question and Answer session with the medical professionals in the audience.

Dr. Thurayya Arayssi, WCMC-Q’s Associate Professor of Medicine and Associate Dean for Continuing Professional Development, said: “We are extremely pleased to welcome to Doha such a highly regarded leader of research as Dr. Salmon. Her research into the effects of lupus and antiphospholipid syndrome on pregnancy is truly pioneering and has moved the field forwards dramatically. We feel extremely privileged and grateful to have been able to bring Dr. Salmon here to WCMC-Q to share her expertise with the healthcare community in Doha.”

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