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Peripartum cardiomyopathy

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Peripartum cardiomyopathy is a rare and pregnancy associated myocardial disease with marked left ventricular systolic dysfunction. It is a type of dilated Cardiomyopathy of unknown origin that develops in the final period of pregnancy and up to five months after delivery (postpartum) . It occurs in the absence of any determinable heart disease within the specified period of time. The incidence of Peripartum Cardiomyopathy varies worldwide and it's noted to be higher in developing countries. (For example, the Incidence in Nigeria, 1% surpasses that in more developed countries such as South Africa, 0.1% or the United States, 1:3000 – 4000 deliveries). This regional disparity can be accounted for by environmental and genetic factors, standard of perinatal care and more. Specific causal factors of Peripartum Cardiomyopathy has not yet been Identified, moreover, higher Incidence of this myocardial disease can be associated with the following.

- Advanced maternal age
- Black race
- History of hypertension
- Multiparity, Obesity, malnutrition etc.

The pathogenesis of Peripartum Cardiomyopathy is controversial and some possible mechanisms have been proposed. The high concentration of Interferon gamma, Tumor Necrosis factor Alpha , interluken-6, C- reactive proteins, Fas / apoptosis antigen 1 (Apo-1) in Peripartum Cardiomyopathy suggest an underlying Inlammatory processs for the Pathophysiologic development of Peripartum Cardiomyopathy. Also, physiologic changes during pregnancy usually boost maternal anti oxidantdefence mechanisms. However, patients with Peripartum Cardiomyopathy exhibit high level of oxidative stress (i.eIncreased levels of oxidized low density lipoprotein). In murinCardiomyocytes, deletion of the signal transducer and activation of transcription -3 (Stat-3) gene responsible for protection from oxidative stress can be a cause of this myocardial disease in dose dependent fashion. In few words, Stat -3 deletion leads to over expression of cathepsin D, which cleaves prolactin into its 16 kDa active form, thereby enhancing the anti angiogenic and pro-apoptotic properties of prolactin that destroy the cardiac and vascular tissues. Patients affected by PPCM have generally no case history except that in the last month of pregnancy, they show dyspnea, fatigue, peripheral edema, cough, palpitations, orthopnea, malaise etc. Basically, symptoms of heart failure. Diagnosisof Peripatum Cardiomyopathy requires a high degree of suspicion and carefulness in order not to confuse it with physiologic changes associated with advanced pregnancy. Diagnosis can be facilitated by Electrocardiography, Echocardiography, MRI, Endomyocardial biopsy etc.

Also look for displacement of apical impulse, presence of S3 Heart sound, and evidence of Mitral or Tricuspid regurgitation, pulmonary Crepitations and pedal edema may also be present.Also the LVEF less than 0.45 and End diastolic volume of greater than 2.7cm can also be diagnostic. Note that because of its setting in the Peripartum period, Peripartum Cardiomyopathy requires a well coordinated multidisciplinary approach to management Inorder to avoid complications. Hence its management is similar to that of other types of heart failures.

- Improve symptoms through conventional pharmacologic therapies and, if necessary non pharmacologic therapies.
- Effect a cure through the administration of targeted therapies.

To mention just a few, diuretics and Angiotensin blocking drugs are used for management of PPCM, note that regardless of the drugs used their safety profile during pregnancy and lactation must be considered and their adverse effects must be closely monitored. Non pharmacologic regimen is also very important particularly in women with signs and symptoms of heart failure, therefore salt and water restriction will do a great job and once heart failure symptoms have been controlled, modest exercise (walking and cycling) will help.

Conclusion: Peri-partum Cardiomyopathy is a rare but serious myocardial disease and it require awareness among multidisciplinary patient care team and a level of suspicion to diagnose. The prognosis is best when the disease is diagnosed and treated early. This disease has a high risk of recurrence in subsequent pregnancies, so let's look out to the risk of Peripartum Cardiomyopathy in subsequent pregnancies in women with a history of Peri-partum Cardiomyopathy.

Biography

Chika Richard Ejekwu, he is from Owerri, Imo State Nigeria. He was born on May 25th1990. He Attended Adapalm primary school and Government Secondary school Owerri Imo state. He has went to University of port-harcourt in Rivers State Nigeria and had a one year basic programme in microbiology. He has spent two more years in the same university studying microbiology before he got admission into Spartan Health Sciences University Vieux Fort Saint Lucia West Indies. He is a third year medical student attending my posting at Federal Medical center Owerri Imo State and Holy Rosary Hospital EmekukuOwerri Imo State.

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