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Peripartum cardiomyopathy: risk factor profile, familial aggregation, prognostic indicators and treatment

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ABSTRACT

Introduction: Peripartum cardiomyopathy (PPCM) is a form of unexplained heart failure associated with pregnancy that leads to considerable morbidity and mortality. Most patients present with acute postpartum heart failure that otherwise resembles dilated cardiomyopathy (DCM). Little is understood about the aetiopathogenesis of PPCM, including the genetic contribution; or its treatment. I hereby report on a comprehensive collection of studies that begins with a study of familial DCM in PPCM, which incorporated genetic screening for mutations in the Lamin-A gene (LMNA), known for their virulence in familial DCM, to assess their role in the development of PPCM. I then proceeded to identify risk factors and prognostic indicators for PPCM, including those identifiable through the electrocardiogram (ECG). Finally, given the shortage of evidence for a treatment modality specific to PPCM, a trial of the use of Bromocriptine in the treatment of PPCM was conducted.

Methods: Consenting prevalent and incident PPCM patients seen at two tertiary hospitals across South Africa, were recruited, and systematic analyses done of their full clinical profiles. A small subset of patients recruited immediately post-partum underwent a trial of Bromocriptine therapy. Another subset of PPCM patients had their respective first degree relatives undergo full clinical screening for DCM.

Results and Conclusion: Our findings support the notion that over a third of PPCM cases may form part of the spectrum of familial DCM. Routine family screening may be as much merited in PPCM as it is in DCM. The ECG appears to be a useful adjunctive tool in both screening and prognostication in resource-poor settings. Further assessment of the prognostication of PPCM suggests that increased LVESD, lower BMI and lower serum cholesterol at baseline may be independent predictors of poor outcome in patients with PPCM, while older age and smaller LVESD at baseline appear to be independently associated with a higher chance of LV recovery. In the trial reported herein, the addition of Bromocriptine to standard heart failure therapy appeared to improve left ventricular ejection fraction and a composite clinical outcome in women with acute severe PPCM.