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Editorial commentary: Peripartum cardiomyopathy: Long-term implications of treatment and management

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In recent years, increasing scientific effort has been devoted to investigating both the pathophysiology and clinical characterization and epidemiology of peripartum cardiomyopathy (PPCM). However, the diagnosis is still challenging, with difficulties to distinguish peripartum discomfort in healthy women (fatigue, shortness of breath, and edema) from pathological symptoms of PPCM [1]. Misdiagnosis or delayed identification of disease and initiation of therapy may have fatal consequences with a considerable rate of morbidity and mortality [2]. Despite recent advances in understanding PPCM, it remains a potentially life-threatening heart disease in previously healthy young women. Therefore, it demands further research and strategies to increase awareness not only among cardiologists but also in many other disciplines including general practitioners, cardiologists, obstetricians and midwives [1].

While much of the existing data suggest that the risk of death is greatest in the early postpartum period, later deaths occurring either due to deterioration of cardiac function or arrhythmia have been noted. Only 36% of deaths occurred within 6 months in a group of 80 women with PPCM from South Africa, with a further 36% at 6–12 months and 27% at 12–24 months. Notably, in this cohort, recovery of LV function had occurred in 29% of patients who died between 6–24 months, suggesting that even in those with early recovery, a risk of mortality persisted beyond this.

In a retrospective two-centre study of 100 women from the USA, 2 out of 11 women who died had recovered LV function by a mean of 23 months and death occurred at a mean of 83 months.

In fact, more recent data using wearable cardioverter-debrillator clearly demonstrate a high risk for ventricular tachyarrhythmias, and sudden death in patients with PPCM is more common in the acute phase of the disease but may even occur during recovery.

The management of PPCM can be divided into three stages:

1) The acute phase, often requiring advanced intensive care by a highly interdisciplinary approach involving cardiologists, obstetricians, neonatologists, anesthetists, intensivists, and in some cases cardiac surgeons especially in patients with cardiopulmonary distress [3]. In recent years, a growing number of studies have evaluated treatment algorithms for patients with acute PPCM which were recently summarized in a practical guidance from the Heart Failure Association of the European Society of Cardiology Study Group on peripartum cardiomyopathy [3] with focus on health of both mother and child.
2) The sub-acute phase with establishment and optimization of heart failure medication once cardiopulmonary stability has been achieved. Besides established therapeutic concepts of acute heart failure, an adjunctive therapy with the prolactin release inhibitor bromocriptine shows promising results in improving recovery and reducing morbidity and mortality in the sub-acute phase [4,5].
3) The chronic phase with further monitoring and adjustment of medication including long-term follow-up. Here, optimized diagnostic and therapeutic algorithms developed in recent years have improved a better mid-term outcome as compared to so-far reported studies, especially if bromocriptine and anticoagulation have been added to the standard heart failure therapy with best supportive care in patients with first-ever diagnosed PPCM at acute presentation [5].

Importantly, while many studies have focused on improving initial management of PPCM patients at the acute presentation, there is an unmet clinical need to evaluate and optimize concepts for the long-term care of PPCM after myocardial recovery. In particular, adaptation of heart failure medication, monitoring patients' clinical and cardiac performance as well as emotional health and risk stratification when planning a subsequent pregnancy [1] are major aspects of long-term care of PPCM. However, currently available data addressing long-term care and outcome are based mostly on single-center studies or small registries [6–8]. In this regard, the review article *"Peripartum Cardiomyopathy-Diagnosis, Management, and Long-Term Implications"* by Stergiopoulos and Lima presented in the current issue of *Trends in Cardiovascular Medicine* provides an important overview of clinical aspects of PPCM with a particular focus on long-term implications of the management of PPCM from the US American perspective [9]. It also points out unsolved clinical problems, such as the question of whether long term medical therapy is also required in patients with fully recovered left ventricular function, or the adequate timing of internal cardioverter defibrillator (ICD) or cardiac resynchronization therapy

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(CRT) in patients with persistently severe left ventricular dysfunction.

Such questions might be answered in the future by the ongoing prospective EURObservational Programme on PPCM that included important longer-term data [10].

Thus, for a long time, PPCM was considered an enigmatic disease, but the intensive basic and clinical research during the past two decades have formed a picture of this disease that is well summarized in the review by Stergiopoulos and Lima in this issue of *Trends in Cardiovascular Medicine[9]*.

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