

Long-term cardiac function after peripartum cardiomyopathy and preeclampsia

A Danish nationwide, clinical follow-up study using maximal exercise testing and cardiac magnetic resonance imaging

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Background

- Few clinical studies of long-term outcome after peripartum cardiomyopathy (PPCM)
- Relation with preeclampsia (PE)?
- Aim:
 - To measure the long-term effect of PPCM on cardiac function and investigate the association with PE

Method



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RESEARCH ARTICLE

Peripartum cardiomyopathy in Denmark: a retrospective, population-based study of incidence, management and outcome

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- Three study groups invited:
 - Nationwide PPCM cohort 2005 – 2014 (PPCM-group)
 - Previous severe preeclampsia (PE-group)
 - Previous uncomplicated pregnancy (UCP-group)

Method

- Maximal exercise testing
 - Peak VO_2



- Cardiac magnetic resonance imaging
 - Systolic function
 - Diastolic function
 - Late gadolinium enhancement

Results

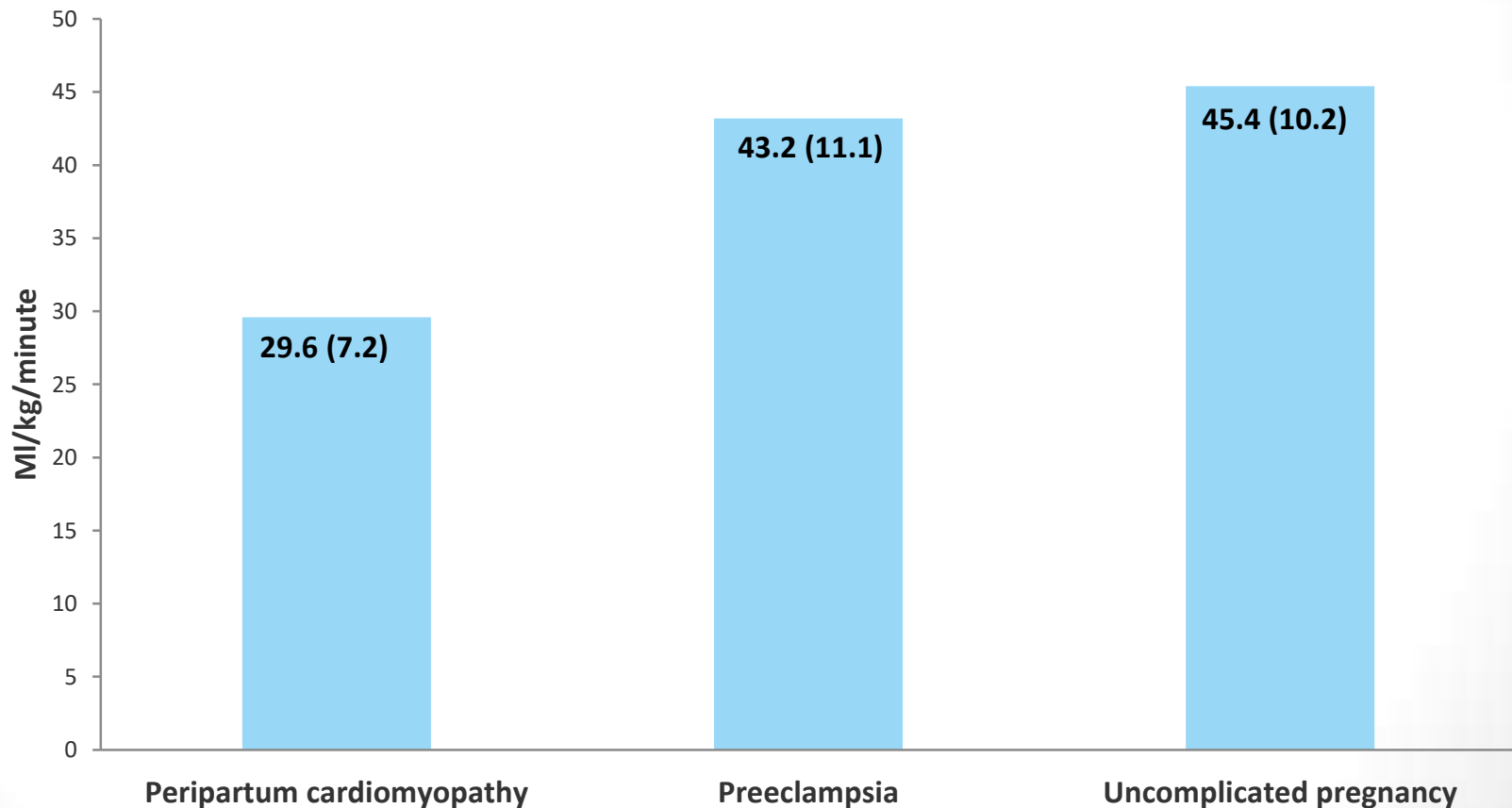
- **Participants n=84:**
- PPCM-group
 - 58 invited → 28 accepted (48%)
 - No differences between participants and decliners
- PE-group
 - 28 women matched on age and year of index delivery
- UCP-group
 - 28 women matched on age and year of index delivery

Results

- Median time to follow-up: 7.5 years (range 2 – 11 years)
- BMI:
 - PPCM-group: 30 kg/m²
 - PE-group: 23 kg/m²
 - UCP-group: 23 kg/m²
- PPCM-group
 - NYHA class I: 24 women (86%)
 - Heart failure medication: 13 women (46%)

Results Exercise testing

Mean peak oxygen consumption ($p < 0.0001$)



Results Cardiac magnetic resonance imaging

	PPCM-group	PE-group	UCP-group	P value
LVEF, %	62	67	67	< 0.0001
LVEDV, ml/m ²				0.008
Diastolic function				
LVPFR, ml/s/m ²	229		265	0.005
LAPEV, ml/m ²	13	19	20	<0.0001

LGE: 1 woman

Results

- Predictors of peak VO_2 :
 - Diastolic function: LAPEV ($p = 0.012$)
 - BMI ($p < 0.0001$)
 - Adjusted for daily use of beta-blocker and time spent on exercise
- 15 women in PPCM-group with concomitant hypertensive disorder of pregnancy:
 - Higher blood pressure at follow-up
 - No significant differences in peak VO_2 , systolic or diastolic cardiac function

Conclusion

- Seven years after PPCM:
 - Most women recovered LVEF
 - Diastolic dysfunction
 - Reduced exercise capacity
 - Higher blood pressure in women with concomitant HDP, but no other differences

- Thank you

