

Subsequent reproductive outcome among women with peripartum cardiomyopathy: a nationwide study

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Declaration of interests - none

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Peripartum cardiomyopathy (PPCM)

- Definition

- “Idiopathic cardiomyopathy presenting with heart failure secondary to left ventricular systolic dysfunction towards the end of pregnancy or in the months following delivery
- No other cause of heart failure is found
- Diagnosis of exclusion
- Left ventricular ejection fraction (LVEF) is nearly always $< 45\%$ (normal $\geq 55\%$)”

Siwa et al. Eur J Heart Failure, 2010

- Incidence varies globally

- Haiti: 1:300
- South Africa: 1:1000
- USA: 1:968 to 1:4250
- Denmark: 1:10.149
- Japan: 1:20.000 deliveries



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Peripartum cardiomyopathy

- Prognosis
 - 47-72 % recover left ventricular function within 6-12 months
 - 13-15 % major adverse events (MAE)
 - Heart transplantation: 1-7 %
 - Mechanical circulatory support: 1-8 %
 - Persistent severe heart failure: 5-15 %
 - Mortality: 2-4 %

Haghikia et al. Basic Res. Cardiol., 2013

McNamara et al. JACC 2015

Ersbøll et al. submitted

Subsequent pregnancies

Pre-pregnancy LVEF	Risk of relapse of heart failure (%)	Mortality (%)
$\geq 55\%$	17-21 %	0 %
$\leq 55\%$	44-46 %	2-19 %

Elkayam et al. NEJM, 2001

Fett et al. Int. J of Gynecology and Obstetrics, 2009

Subsequent pregnancies

- No clear guidelines regarding subsequent pregnancies
- Women with PPCM are often advised against a new pregnancy
- Few European studies
- **Aim:** to describe subsequent reproductive outcome in a Danish population-based cohort during 2005-2014

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Methods

2005-2014: Nationwide Danish registries ICD-10 diagnoses related to pregnancy:

- PPCM: O90.3
- Cardiomyopathy: I42 and I43
- Heart failure: I50 and O75.4

Chart review and validation of 61 cases of PPCM in 61 women

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Methods

New search in nationwide registries for subsequent ICD-10 diagnoses:

- Liveborns: O80-O84
- Abortions: O00-O08
- Sterilizations: KLGA22

Chart review and data collection

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Results

- 13 / 61 women (21 %) had a total of 16 subsequent pregnancies
 - 1 miscarriage
 - 1 ectopic pregnancy
 - 7 terminations
 - 7 live-born babies

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Subsequent pregnancies resulting in a live-born baby (n=7)

- Baseline characteristics before subsequent pregnancy
 - 6 had normalized LVEF
 - 2 women were on oral β blockers
 - 2 had been advised against a new pregnancy

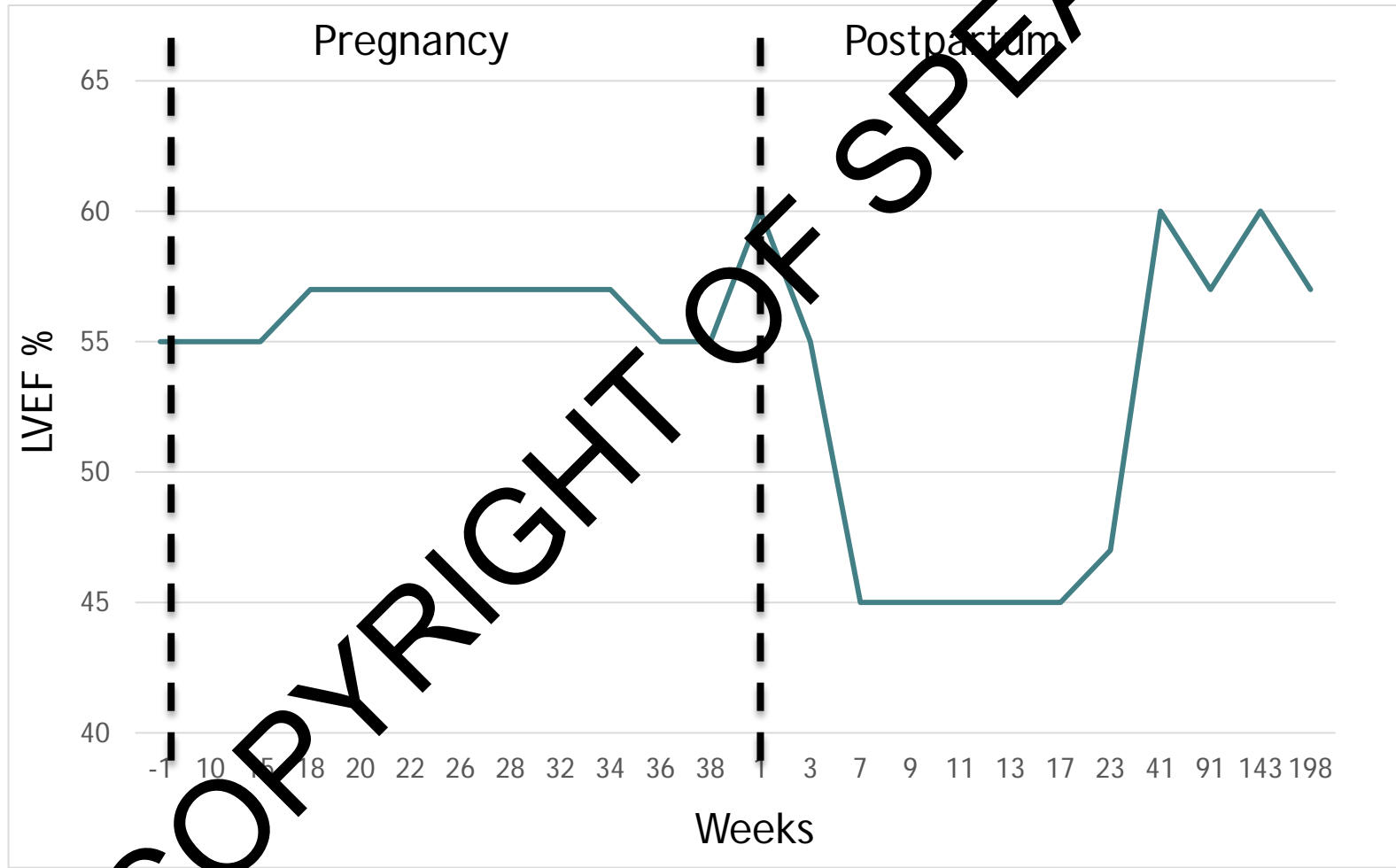
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Subsequent pregnancies resulting in a live-born baby (n=7)

- Neonatal outcome
 - 7 born at term
 - Mean gestational age 269 days, (range 259-276)
 - 7 healthy babies
 - APGAR 5 score \geq 9
 - Mean birth weight 3488 g (range 2650-4220 g)
- Maternal outcome
 - 5 planned caesarian sections
 - 3 maternal requests
 - 2 obstetric indications
 - 2 vaginal deliveries
 - 1 had a short episode of self-limitating tachyarrhythmia
 - None had relapse of heart failure during pregnancy
 - 1 had asymptomatic decrease in LVEF 7 weeks postpartum

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LVEF before, during and after the subsequent pregnancy



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Conclusion

- 11 % of women with PPCM had a subsequent pregnancy resulting in a live-born child
 - 14 % relapse of heart failure
 - 0 % mortality
- Relapse can occur in a new pregnancy, even though LVEF has normalized
- Need for more data, metaanalyses and establishment of clinical guidelines



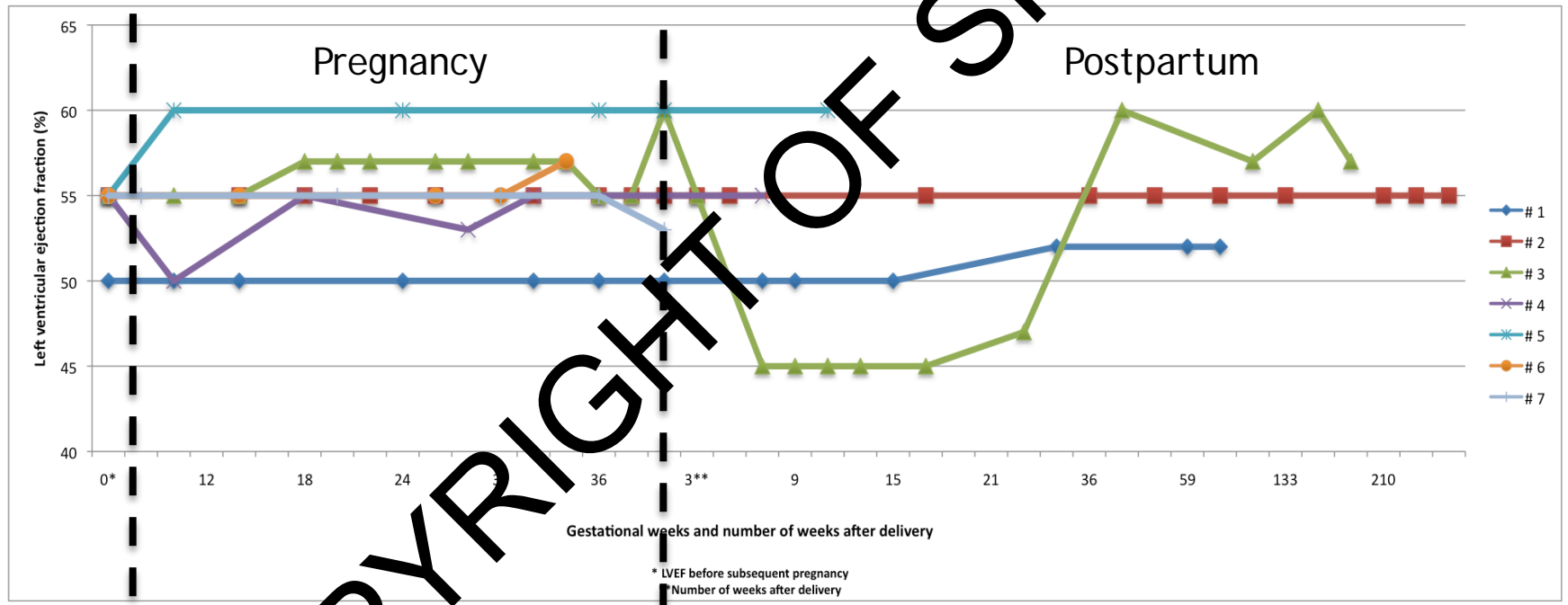
Terminations

- 7 terminations in 6 women
- Mean gestational age at termination: 47 days (range 43-51)
- No cardiac complications
- 5 had been advised against a subsequent pregnancy after the PPCM diagnosis
- No significant difference in clinical characteristics compared with the women who gave birth to a liveborn baby (→ differences in counseling?)

Sterilizations

- 4 women
- 3 were due to advice against a new pregnancy after the PPCM diagnosis

LVEF before, during and after the subsequent pregnancy



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