Dilated cardiomyopathies in Pregnancy:
A retrospective data analysis

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BACKGROUND

- dCMP in Pregnancy
  - HIGH RISKS FOR COMPLICATIONS AND MATERNAL DEATH
    - HEART FAILURE
    - ARYTHMIA
    - STROKE/THROMOEMBOLISM
  - Only few data to characterize the history and predict the outcome of pregnancy, delivery and postpartum course
METHODS

- Retrospective data analysis on 11 pregnancies in nine women with dCMP at our hospital from 2006 until 2017
- Management by a multidisciplinary team of obstetricians, cardiologists, cardiothoracic surgeons and anesthetists
- Clinical evaluation, serial transthoracic echocardiography (TTE), left ventricular ejection fraction (LV-EF), NT-proBNP Levels during pregnancy and after delivery
# RESULTS

## A. Patients with mildly reduced LV function and uncomplicated course of pregnancy and delivery

<table>
<thead>
<tr>
<th>G/P</th>
<th>Underlying cause</th>
<th>ICD</th>
<th>Antenatal LV-EF</th>
<th>GA at delivery</th>
<th>MoD</th>
<th>Postpartum LV-EF</th>
</tr>
</thead>
<tbody>
<tr>
<td>II/0</td>
<td>Post-infectious</td>
<td>yes</td>
<td>50%</td>
<td>38+2</td>
<td>AVD</td>
<td>50%</td>
</tr>
<tr>
<td>I/0</td>
<td>Hereditary</td>
<td>no</td>
<td>45%</td>
<td>37+1</td>
<td>C/S</td>
<td>50%</td>
</tr>
<tr>
<td>II/0</td>
<td>Post-infectious</td>
<td>no</td>
<td>50%</td>
<td>37+2</td>
<td>NVD</td>
<td>50%</td>
</tr>
<tr>
<td>III/I</td>
<td>Post-infectious</td>
<td>no</td>
<td>50%</td>
<td>34+1</td>
<td>NVD</td>
<td>50%</td>
</tr>
<tr>
<td>III/II</td>
<td>Hereditary</td>
<td>no</td>
<td>50-55%</td>
<td>Missed Abortion</td>
<td>-</td>
<td>50-55%</td>
</tr>
</tbody>
</table>

GA, gestational age; C/S, cesarean section; ICD, implantable cardioverter defibrillator; MOD, mode of delivery; NVD, normal vaginal delivery; same patient, different pregnancies;
## RESULTS

### B. Patients with major maternal/fetal complications

<table>
<thead>
<tr>
<th>G/P</th>
<th>Underlying cause</th>
<th>NYHA</th>
<th>ICD</th>
<th>Lowest Antenatal LV-EF</th>
<th>Highest Antenatal NT-proBNP</th>
<th>GA at delivery</th>
<th>MoD</th>
<th>LV-EF after delivery (weeks)</th>
<th>NT-proBNP after delivery (weeks)</th>
<th>Lowest LV-EF after delivery (months)</th>
<th>Highest NT-proBNP after delivery (months)</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>II/0</td>
<td>Right ventricle non compaction R/O PPCMP</td>
<td>III-IV</td>
<td>no</td>
<td>20-22%</td>
<td>-</td>
<td>31+5</td>
<td>C/S</td>
<td>10-15% (2)</td>
<td>2854 (2)</td>
<td>10-15% (2)</td>
<td>-</td>
<td>Hx 3/12 after delivery</td>
</tr>
<tr>
<td>I/0</td>
<td>unknown</td>
<td>III-IV</td>
<td>yes</td>
<td>25%</td>
<td>2378</td>
<td>27+2</td>
<td>C/S</td>
<td>30% (1)</td>
<td>4895 (1)</td>
<td>30% (7)</td>
<td>1392 (7)</td>
<td>Alive and well</td>
</tr>
<tr>
<td>I/0</td>
<td>Anthracyclin-induced</td>
<td>III</td>
<td>no</td>
<td>42%</td>
<td>-</td>
<td>36+6</td>
<td>C/S</td>
<td>38% (1)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Alive and well</td>
</tr>
<tr>
<td>II/1</td>
<td>Anthracyclin-induced</td>
<td>III</td>
<td>no</td>
<td>35%</td>
<td>948</td>
<td>35+6</td>
<td>C/S</td>
<td>15-20% (1)</td>
<td>4474 (1)</td>
<td>33% (24)</td>
<td>768 (24)</td>
<td>See above</td>
</tr>
<tr>
<td>I/0</td>
<td>Post-infectious</td>
<td>I-II</td>
<td>no</td>
<td>25%</td>
<td>2063</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Unexplained cardiac death late 1st trim. (susp. fibrillation)</td>
</tr>
<tr>
<td>I/0</td>
<td>Post-infectious</td>
<td>II-III</td>
<td>yes</td>
<td>25%</td>
<td>6857</td>
<td>ToP 18/40</td>
<td>-</td>
<td>10-15% (2)</td>
<td>3854 (6)</td>
<td>-</td>
<td>1802 (2)</td>
<td>Surgical complications during IABP-Death-</td>
</tr>
</tbody>
</table>

GA, gestational age; C/S, cesarean section; Hx, heart transplantation; IABP, intra-aortic balloon pump; ICD, implantable cardioverter defibrillator; MoD, mode of delivery; ToP, termination of pregnancy; same patient, different pregnancies;
- Our results **confirm** the high risks of pregnancy in dCMP

- Number of published cases is still **low**

- There are **no** appropriate predictors of maternal & fetal/neonatal outcome

- Further criteria for risk stratification are urgently **needed**

**CONCLUSION**

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