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The 60th International Conference of the Israel Heart Society
in association with the Israel Society of Cardiothoracic Surgery

22-23 April 2013, ICC International Convention Center, Jerusalem

Maternal and Neonatal Complications in Women with Valvular Heart Disease

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No conflict of interest exists



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Background and Aim:

- ▶ The presence of valvular heart disease in a pregnant patient continues to pose a clinical challenge
- ▶ Information on valvular heart disease in pregnancy is based on several case series
- ▶ Most of maternal and fetal complications arise in valve stenosis lesions, while regurgitation is usually well tolerated
- ▶ **Aim:** to assess maternal and neonatal outcomes of pregnant women with valvular heart disease and compare them with matched normal pregnant controls



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Study Design:

- ▶ A retrospective case-control study
- ▶ **Study group:** Women with valvular heart disease followed in a specialized cardiac high-risk pregnancy clinic between 2004-2010
 - 35 pregnancies of women with valvular heart disease
 - MS 17 (45%)
 - AS 13 (34%)
 - MR 29 (50%); AR 11(29%); TR 8 (21%); PR 3 (8%)
 - 23 (60%) combined lesions
- ▶ **Controls:** 70 women without heart disease who gave birth at our center at the same time served as controls (2:1 ratio)

Maternal (cardiac and non-cardiac) and neonatal complications were assessed, after controlling for confounders



Maternal cardiac complications:

- ▶ 1 maternal death
- ▶ 2 thrombotic events (PE)
- ▶ 8 arrhythmias
- ▶ 7 events of pulmonary congestion

Increased risk for cardiac complications influenced by:

- ▶ Severity of valvular stenosis **OR 1.31**
(95% CI 1.08-1.58)
- ▶ Previous maternal complications **OR 1.99**
(95% CI 1.21-2.93)
- ▶ Point score index ≥ 1 (Siu et al) **OR 2.18**
(95% CI 1.44-3.32)



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Obstetric complications:

- ▶ Women in the study group delivered earlier (260 ± 20 vs 277 ± 20 days), smaller babies (2776 ± 760 g vs 3232 ± 490 g), $p < 0.001$
- ▶ Any obstetric complications (preterm delivery, hypertensive complications, placental abruption or postpartum hemorrhage): 31% vs. 13% controls ($p = 0.04$)
OR 3.1 , 95% CI 1.14;8.44

Neonatal complications:

- ▶ Low birth weight (<2500 grams) 23% vs 6% ($p = 0.02$)
OR 4.9 , 95% CI 1.36-17.6
- ▶ Admission to neonatal ICU: 55% vs 6% ($p < 0.001$)
OR 18.3 , 95% CI 5.33-63.14
- ▶ Any neonatal complications: 63% vs 16% ($p < 0.001$)
OR 4.2 , 95% CI 2.15-8.25





Conclusions:

- ▶ Preexisting valvular heart disease imposes significant risks on the pregnant woman
- ▶ The risk of adverse pregnancy and neonatal outcome should be explained in detail to such women contemplating pregnancy.



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