

Myocardial remodeling evaluated by echocardiography in chronic arterial hypertension as a predictor of adverse pregnancy outcomes

Introduction

La hipertensión arterial crónica (CAH) en mujeres embarazadas afecta a los resultados maternoperinatales y genera cambios cardiovasculares detectables en el ecocardiograma durante el segundo trimestre. To determine the association between echocardiographic abnormalities detected during the second trimester of pregnancy and maternal-perinatal outcomes at the end of pregnancy in women with CAH.

Metodology

Cohort study of pregnant women with CAH from three high-complexity care centers, classified according to the presence or absence of heart disease. Echocardiographic alterations were detected between weeks 13 to 24 of gestation with a follow-up until the end of gestation.

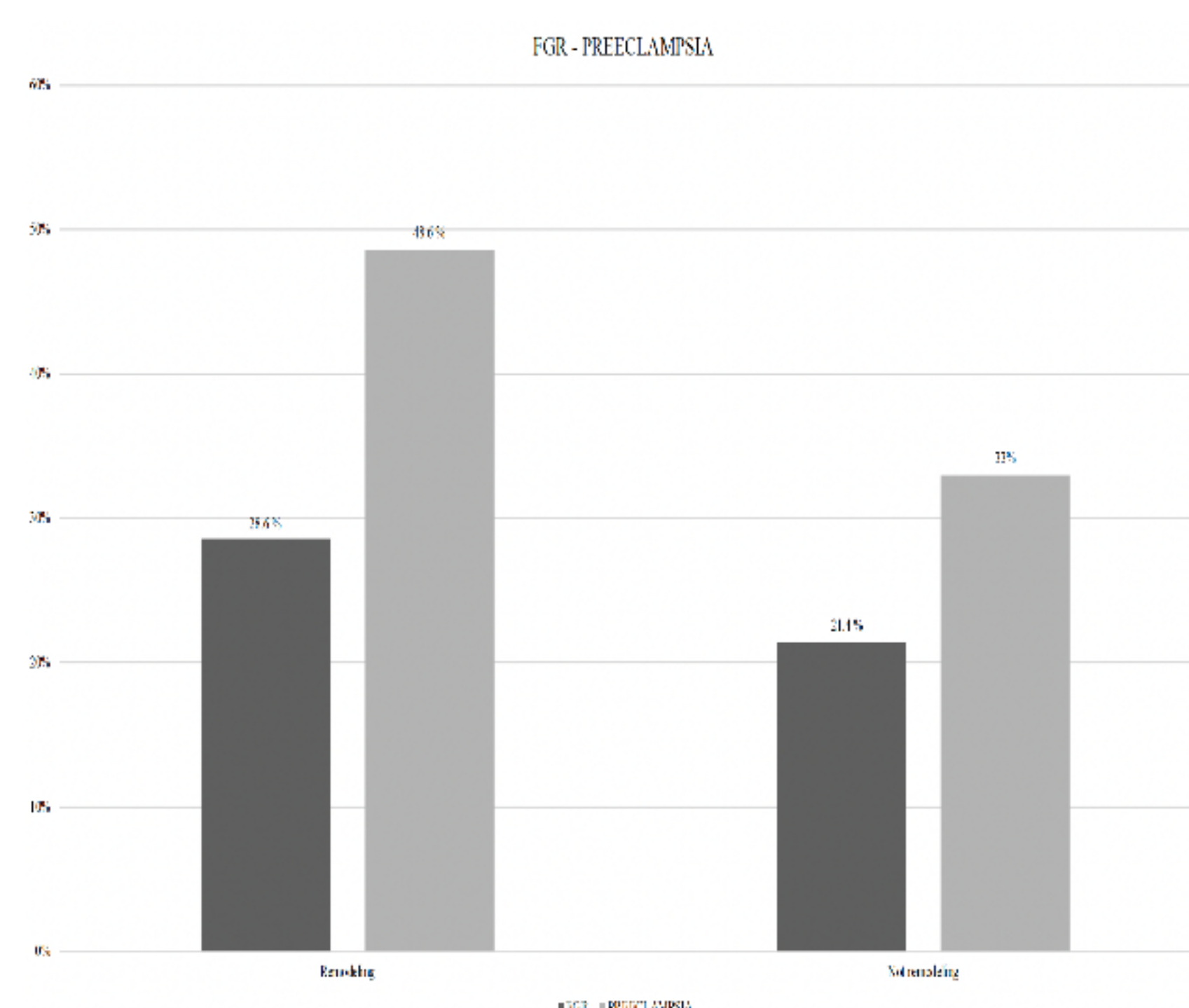
Data Analysis

77 pregnant women with CAH were included, the group with heart disease corresponded to 45.5% (n=35), with a median age of 31 years (RIQ=27-36) and diagnosis time of 30 (RIQ=22 -45) months. The group without heart disease was 54.5% (n=42), with a median age of 30 years (IQR=24-33.25), and a diagnosis time of 21 (IQR=10-42.5) months. Preeclampsia occurred in 48.6% (n=17) and 33% (n=14) [RR=1.4 (95% CI 0.843-2.518)], respectively for the groups with and without heart disease. Intrauterine growth restriction (IUGR) showed the same trend [RR=1.3 (95% CI 0.611-2.911)]. Three perinatal and neonatal deaths occurred, two in the group with heart disease and one in the group without heart disease [RR 2.4 (95% CI 0.227-25.37)].

Table 1. Association between second-trimester echocardiographic findings with adverse maternal and perinatal outcomes.

| Outcome | Heart disease | No heart disease | RR | CI | p-value |
|---------------------------|---------------|------------------|-------|--------------|---------|
| Superimposed preeclampsia | 17(48.6%) | 14(33.3%) | 1.4 | 0.843 -2,518 | 0.175 |
| IUGR* | 10(28.6%) | 9(21.4%) | 1,3 | 0.611 -2,911 | 0.469 |
| Low birth weight | 9(25.7%) | 11(26.2%) | 0.98 | 0.46 -2,096 | 0.962 |
| Preterm labor | 10(28.6%) | 11(26.2%) | 1.09 | 0.526 2,263 | 0.815 |
| NICU admission** | 5(14.3%) | 9(21.4%) | 0.66 | 0.246 1,807 | 0.556 |
| Fetal and neonatal death | 2(5.7%) | 1(2.4%) | 2.4 | 0.227 25.37 | 0.588 |
| Maternal ICU admission*** | 1(2.9%) | 4(9.5%) | 0.3 | 0.035 2,562 | 0.369 |
| Hypertensive crisis | 13(37,1) | 13(31%) | 1,2 | 0.643 2.24 | 0.567 |
| Prolonged hospital stay | 8(22.9%) | 11(26.2%) | 0.873 | 0.395 1,928 | 0.735 |

* IUGR: Intrauterine Growth Restriction ** NICU: Neonatal Intensive Care Unit ***Intensive Care Unit



Conclusion

The echocardiographic findings of the cohort of pregnant women with myocardial remodeling were not associated with adverse maternal-perinatal outcomes. The group with heart disease showed a greater tendency to preeclampsia and IUGR.

References

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