

Arráez Brito, M; Camprubí Camprubí, M; Escobar, MC; Guirado, L; Nogué, L; Bennasar, M; Masoller, N; Crispi, F; Gómez-Roig, MD; Eixarch, E, Gómez, O; Pérez-Cruz, M

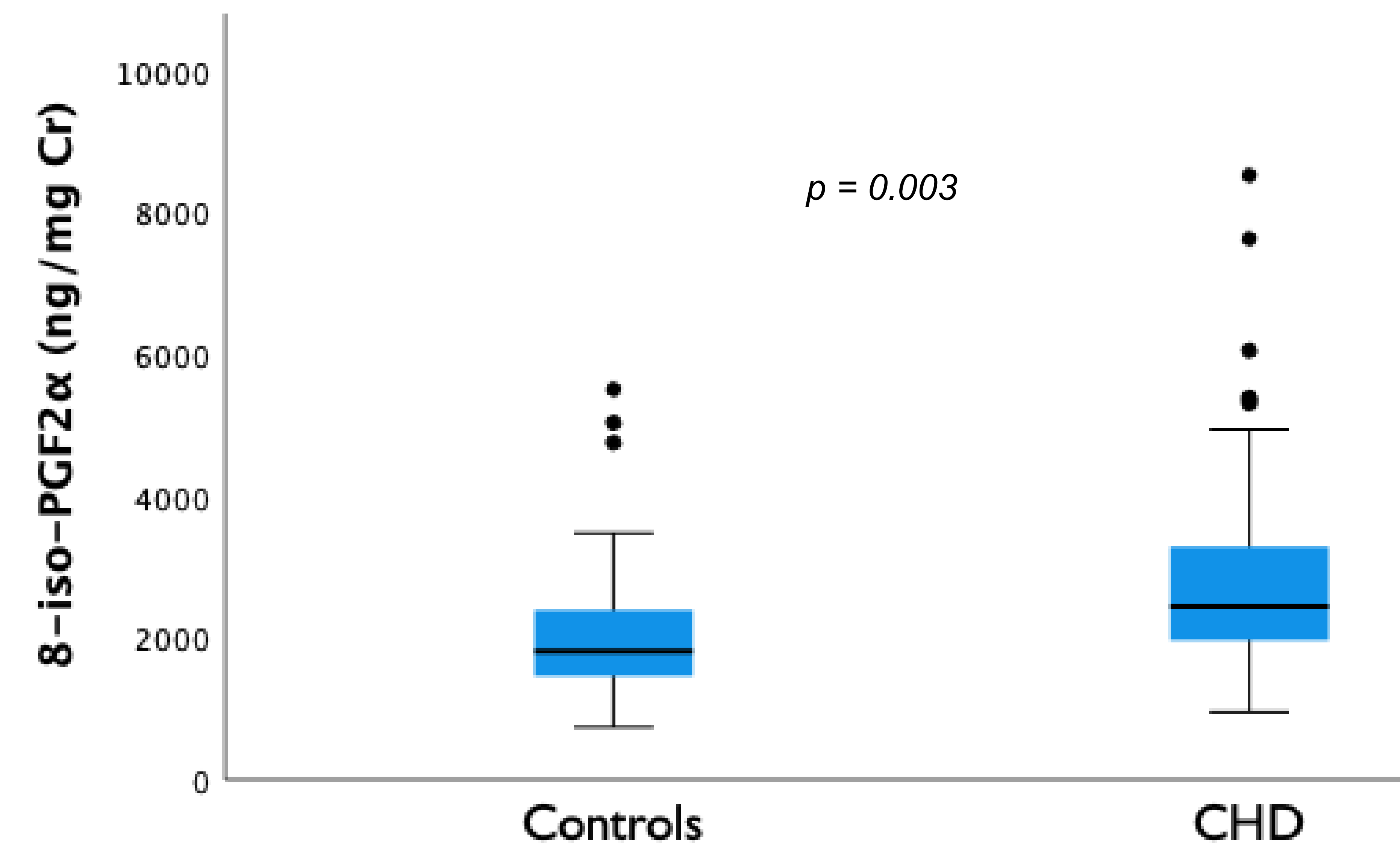
BCNatal Barcelona Center for Maternal-fetal and Neonatal Medicine (Hospital Sant Joan de Déu - Hospital Clínic), Barcelona, Spain.

Objectives: To evaluate intrauterine oxidative stress, assessed by (using) amniotic fluid (AF) 8-iso-prostaglandin F2 α (8-iso-PGF2 α) concentration, in fetuses with isolated congenital heart disease (CHD), and to explore its association with CHD anatomical subtype, fetal hemodynamics and neonatal clinical risk category.

Methods: Prospective case-control study of 83 fetuses with (isolated major) CHD and 40 controls. Controls were pregnancies undergoing clinically indicated amniocentesis for reasons not expected to influence oxidative stress or AF composition. Free AF 8-iso-PGF2 α concentration was quantified by competitive ELISA and normalized to creatinine. CHD cases were classified according to anatomical subtype, fetal hemodynamics and neonatal risk category.

Results: CHD fetuses showed higher AF 8-iso-PGF2 α concentrations than controls (2849 $\pm$ 1377 vs. 2088 $\pm$ 1087 ng/mg Cr, $p = 0.003$), persisting after adjustment for GA. No differences were observed across anatomical, hemodynamic CHD subgroups or clinical neonatal risk category.

CHD fetuses show higher AF 8-iso-PGF2 α concentrations



Conclusion: Elevated AF 8-iso-PGF2 α concentrations support the presence of increased intrauterine oxidative stress in fetuses with CHD. The absence of differences across CHD subgroups may suggest that oxidative stress represents a common feature in major CHD. Further studies should determine its prognostic significance.