

[EP08.60] Endothelial dysfunction in fetuses from pregnancies complicated by normotensive fetal growth restriction

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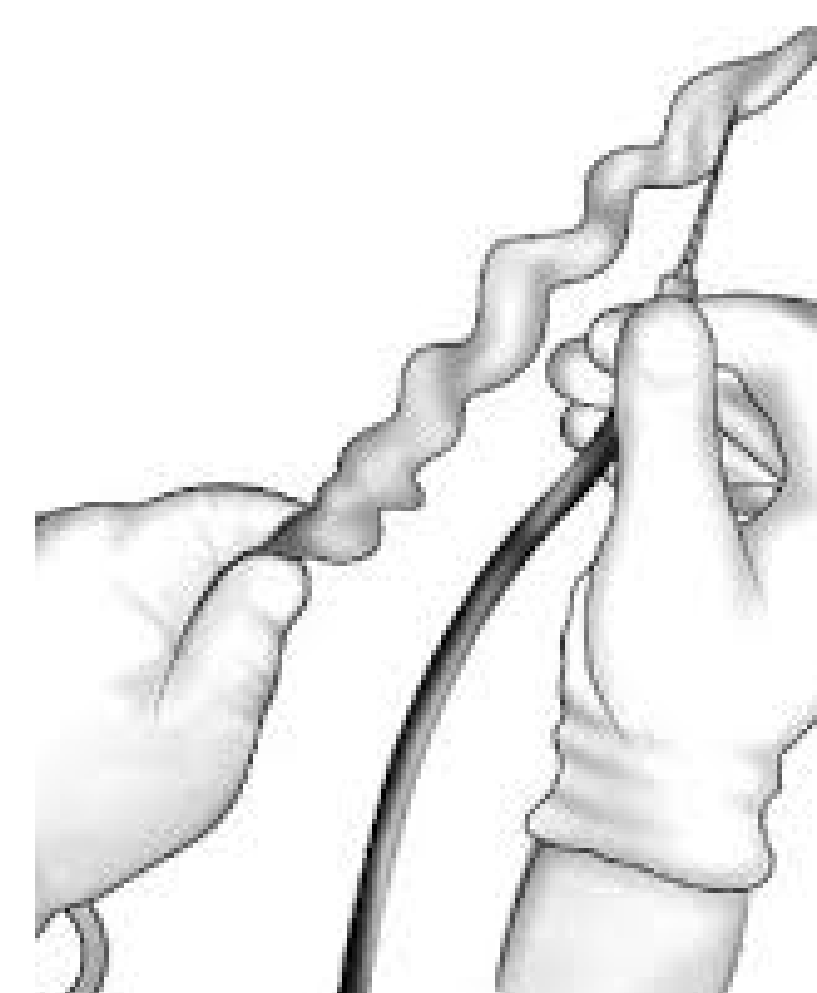
Objective

To evaluate endothelial function and complement system in fetuses from pregnancies complicated by normotensive fetal growth restriction (FGR).

Methods

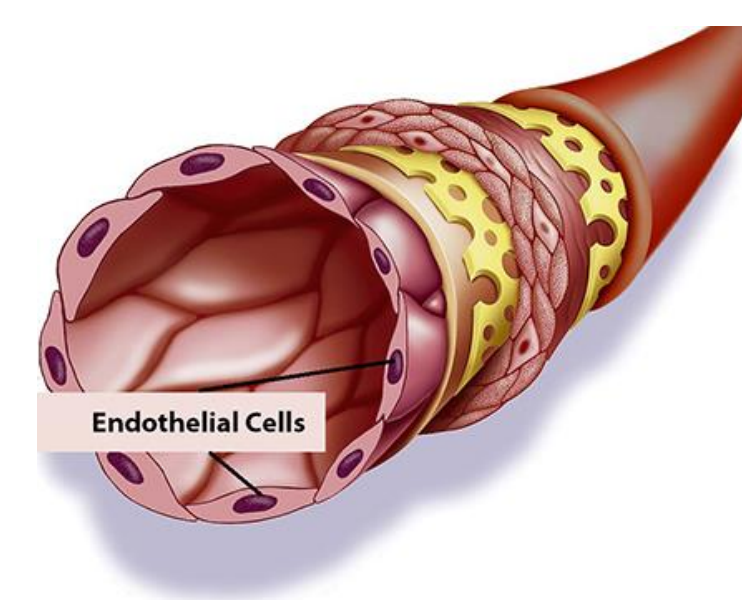
32 healthy pregnancies
15 normotensive FGR

Cord blood samples at the time of delivery



Soluble markers
TNFR1, VCAM-1, ICAM-1,
VWF and C5b-9

Endothelial cells
(human dermal
microvascular endothelial
cell line)



Deposits of VCAM-1, ICAM-1,
VWF, VE-cadherin, e-NOS, ROS
and C5b-9

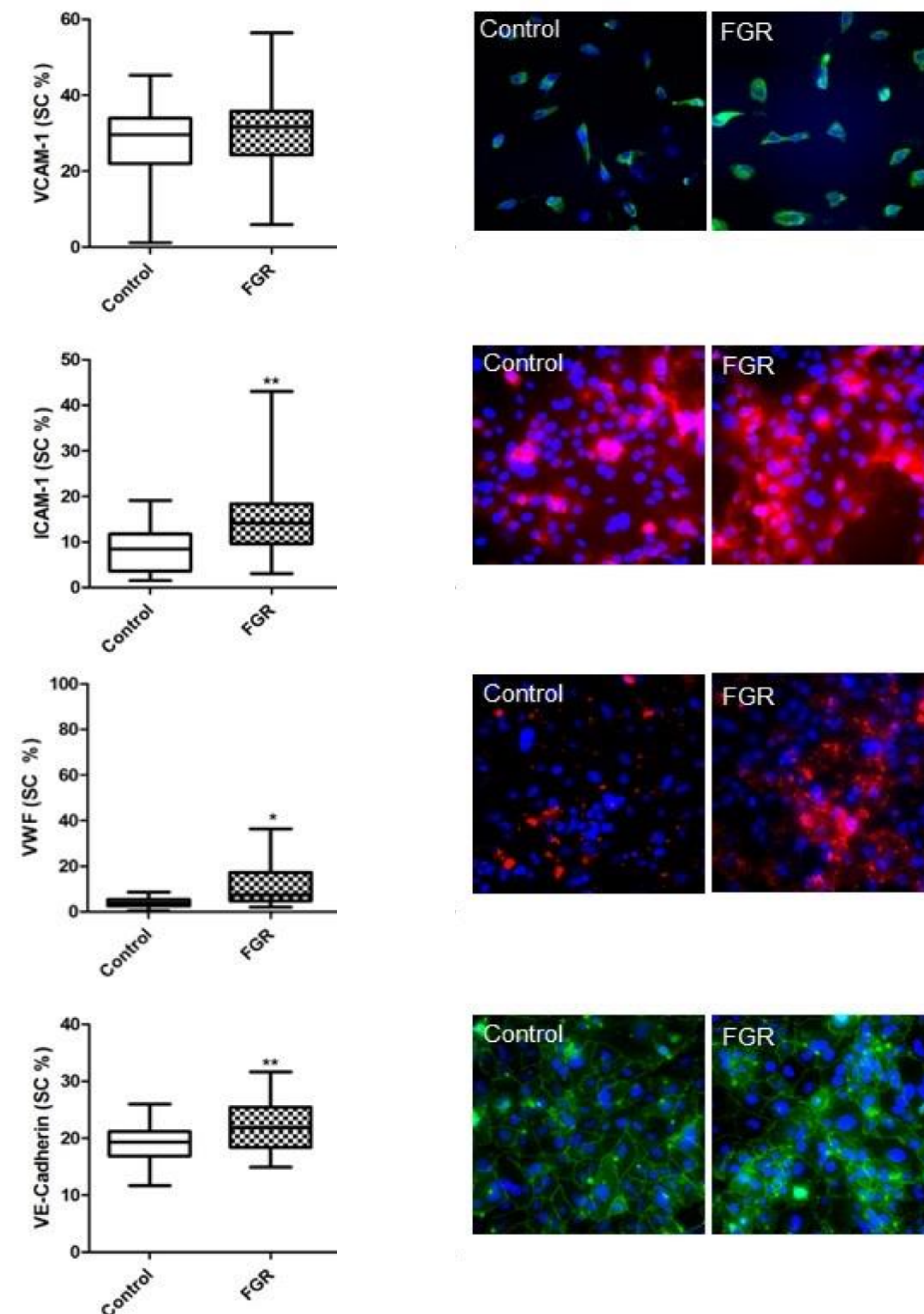


Figure 1. Boxplots showing surface cover of endothelial damage biomarkers.

Results

Increased sTNFR1 and sICAM-1 concentrations were observed in FGR fetuses compared to controls with similar results of sVCAM-1, sVWF and sC5b-9. Endothelial cells exposed to fetal sera showed significantly incremented expression of ICAM-1, VWF, and VE-Cadherin (Figure 1) with similar expression of VCAM-1, eNOS and ROS in contrast with significantly less C5b-9 deposits in FGR compared to controls.

Conclusion

High levels of endothelial adhesion molecules and low deposition of C5b9 suggest endothelial damage and complement dysregulation in FGR fetuses. More research is warranted to study the impact of FGR on fetal vascular health and innate immunity.