



BIOMARKERS OF SUBCLINICAL INFLAMMATION IN AN INFANT-JUVENILE POPULATION WITH TYPE 1 DIABETES

Bazan MC, Casella S, Lopez S, Carrizo TR, Díaz EI, Velarde MS, Abregú AV

Professional Practice Chair, School of Biochemistry, National University of Tucumán, Argentina

Endocrinology Career, School of Medicine, National University of Tucumán, Argentina

E-mail: vabregu@fbqf.unt.edu.ar

In children and adolescents with type 1 diabetes (T1D), clinical manifestations of vascular complications are infrequent; however, a pro-inflammatory state and endothelial disturbance could appear early.

PATIENTS AND METHODS

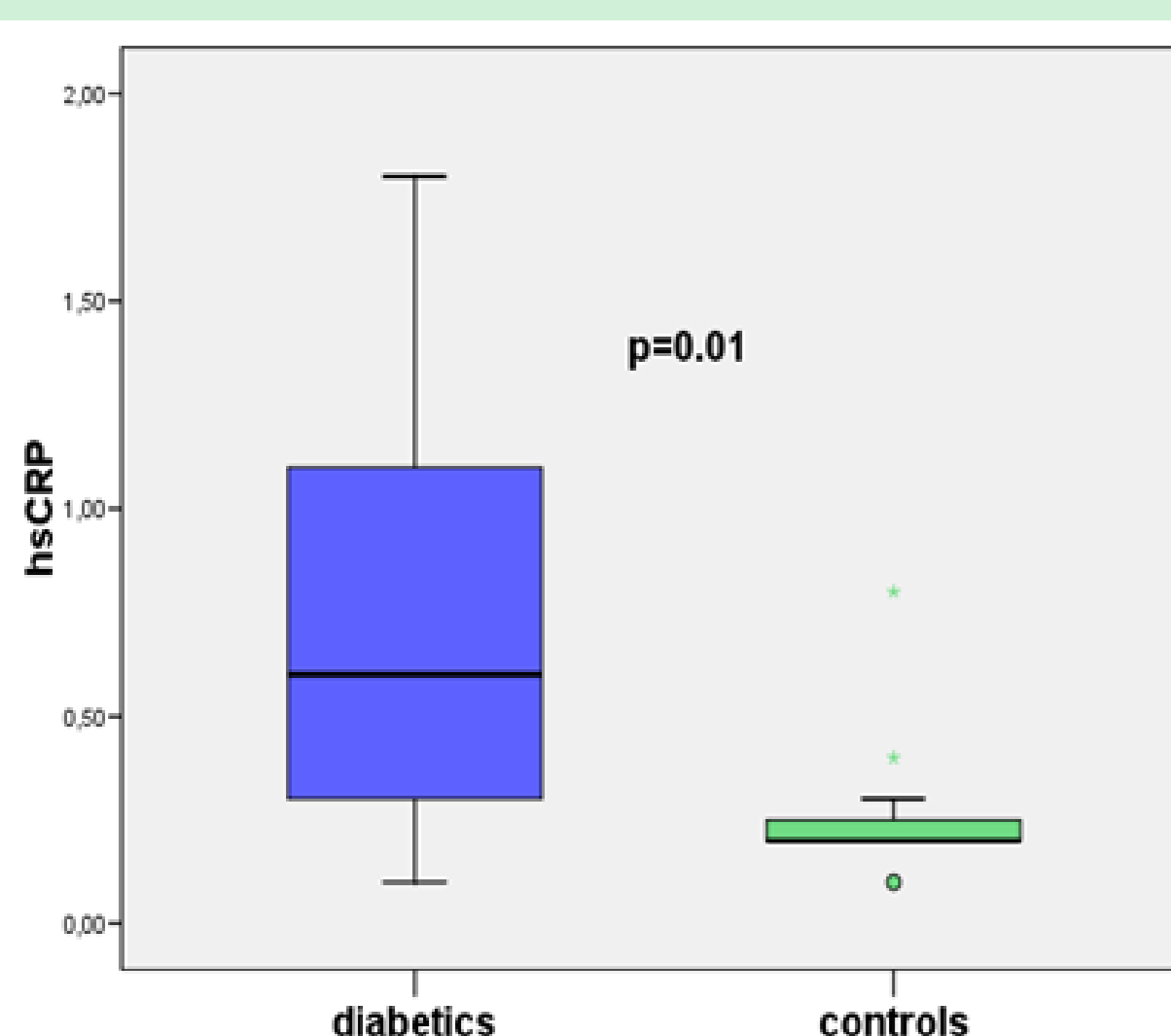
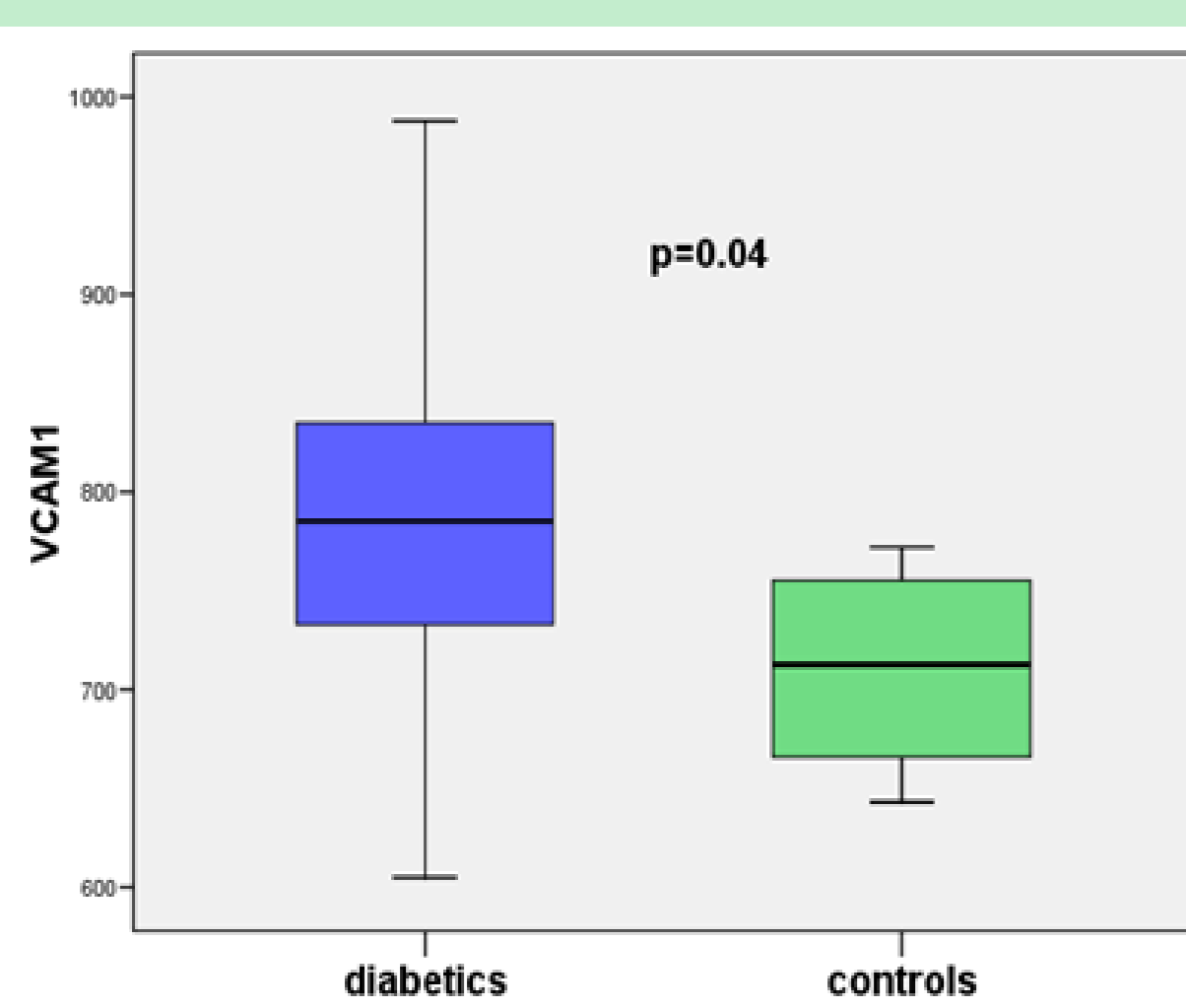
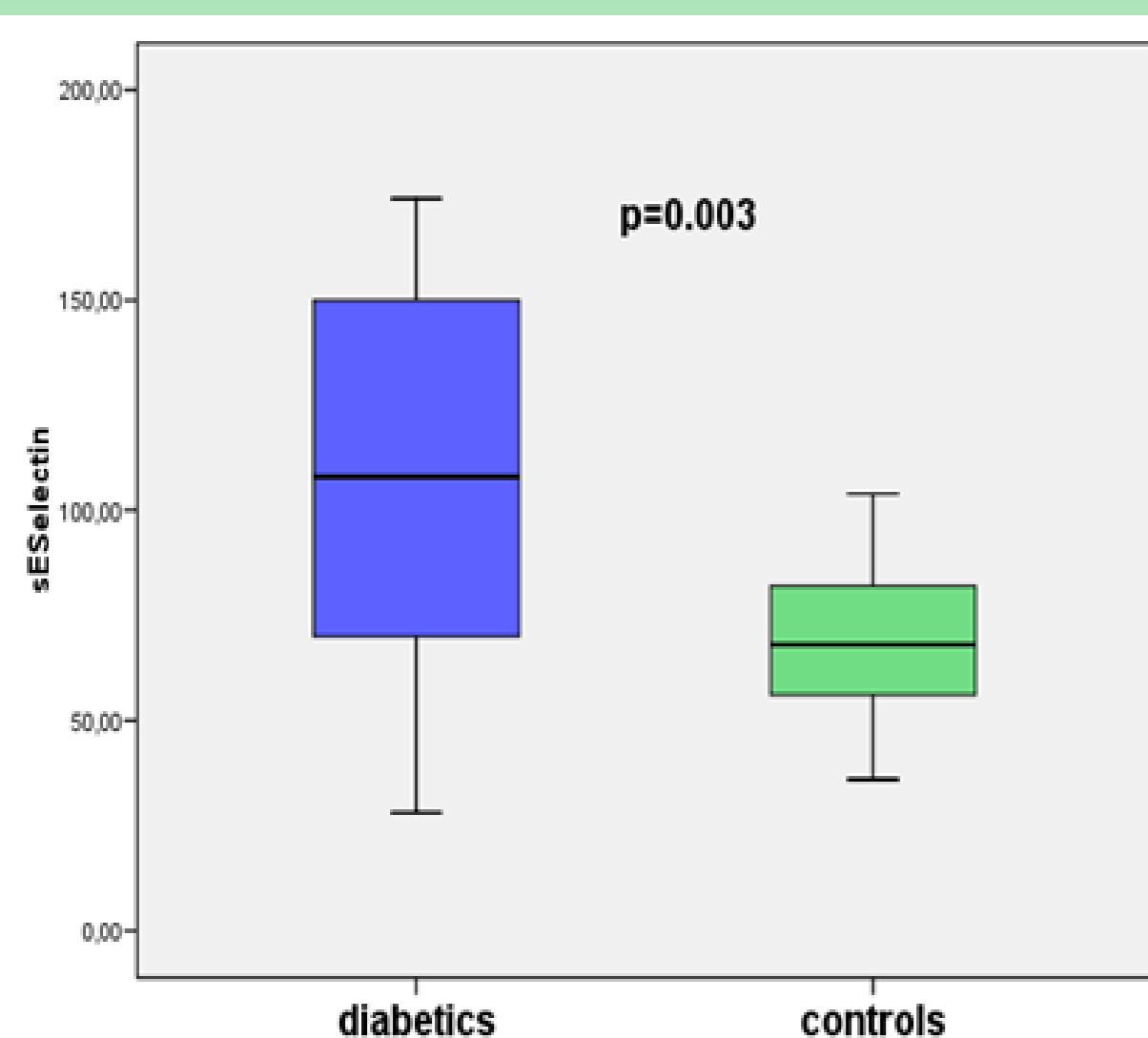
CLINICAL CHARACTERISTICS OF STUDY SUBJECTS

	Type 1 diabetes	Controls	<i>p</i>
n	42	20	---
Males/ Females	21 / 21	10 / 10	NS
Age (years)	11,8 (8-13)	12 (9-14)	NS
BMI (kg/m ²)	17 (16-18)	17.5 (16-19)	NS
Diabetes evolution (years)	3 (2-6)	---	---

The results were expressed as median and interquartile range. *p*<0,05 was considered significant. NS: non significant

LABORATORY

- TNF- α (ELISA, R&D System, USA)
- sE-Selectin (ELISA, R&D System, USA)
- sVCAM-1 (ELISA, R&D System, USA)
- hsCRP (ECLIA, Siemens, USA)
- Fibrinogen (Clauss method, Diagnos Stago, France)
- HbA1c (DCA 2000, Siemens, USA)
- Fasting glucose (Enzymatic method, Wiener Lab, Arg)

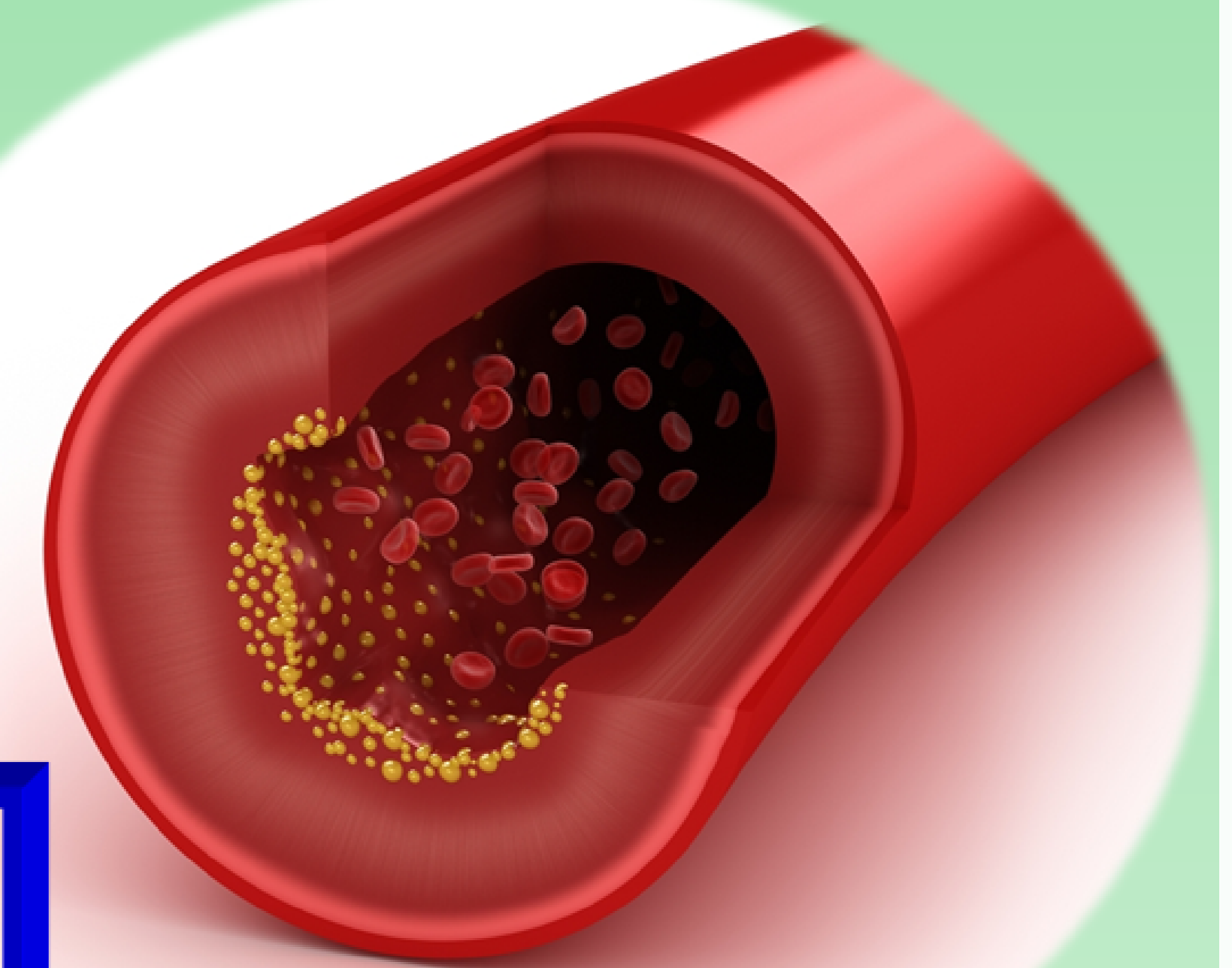


RESULTS

BIOCHEMICAL CHARACTERISTICS OF STUDY SUBJECTS

	Type 1 diabetes	Controls	<i>p</i>
Blood glucose (mg/dL)	195 (99-251)	78 (68-83)	0.001
Hb A1c (%)	10.5 (9.7-13.7)	5,0 (4,9-5,2)	0.001
Leucocytes (sE - Selectin (ng/mL)	6900 (5800-7900)	7000 (6200-7600)	NS
sVCAM-1 (ng/mL)	108 (134-196)	68 (52-86)	0.003
hs-CRP (mg/L)	785 (732-835)	712 (658-758)	0.04
TNF- α (pg/mL)	1.00 (0.67-1.8)	0.20 (0.18-0.70)	0.01
Fibrinogen (mg/dL)	13.7 (11.4-19.7)	12.7 (11.2-14.8)	NS
	244 (211-296)	247 (235-268)	NS

The results were expressed as median and interquartile range. *p*<0,05 was considered significant. NS: no significant



CORRELATIONS

	hs-CRP	
	<i>r</i>	<i>p</i>
blood glucose	0.54	0.001
HbA1c	0.41	0.01
sE-Selectin	0.47	0.004
sVCAM-1	0.41	0.02

CONCLUSION

The increased levels of sE-Selectin, VCAM-1 and hsCRP suggest that a proinflammatory state associated with endothelial activation are present in children with T1D, enhancing the risk of cardiovascular disease..

