

VASCULAR ENDOTHELIAL GROWTH FACTOR AS THE PREDICTOR MICROANGIOPATHY IN OBESE AND DIABETIC CHILDREN

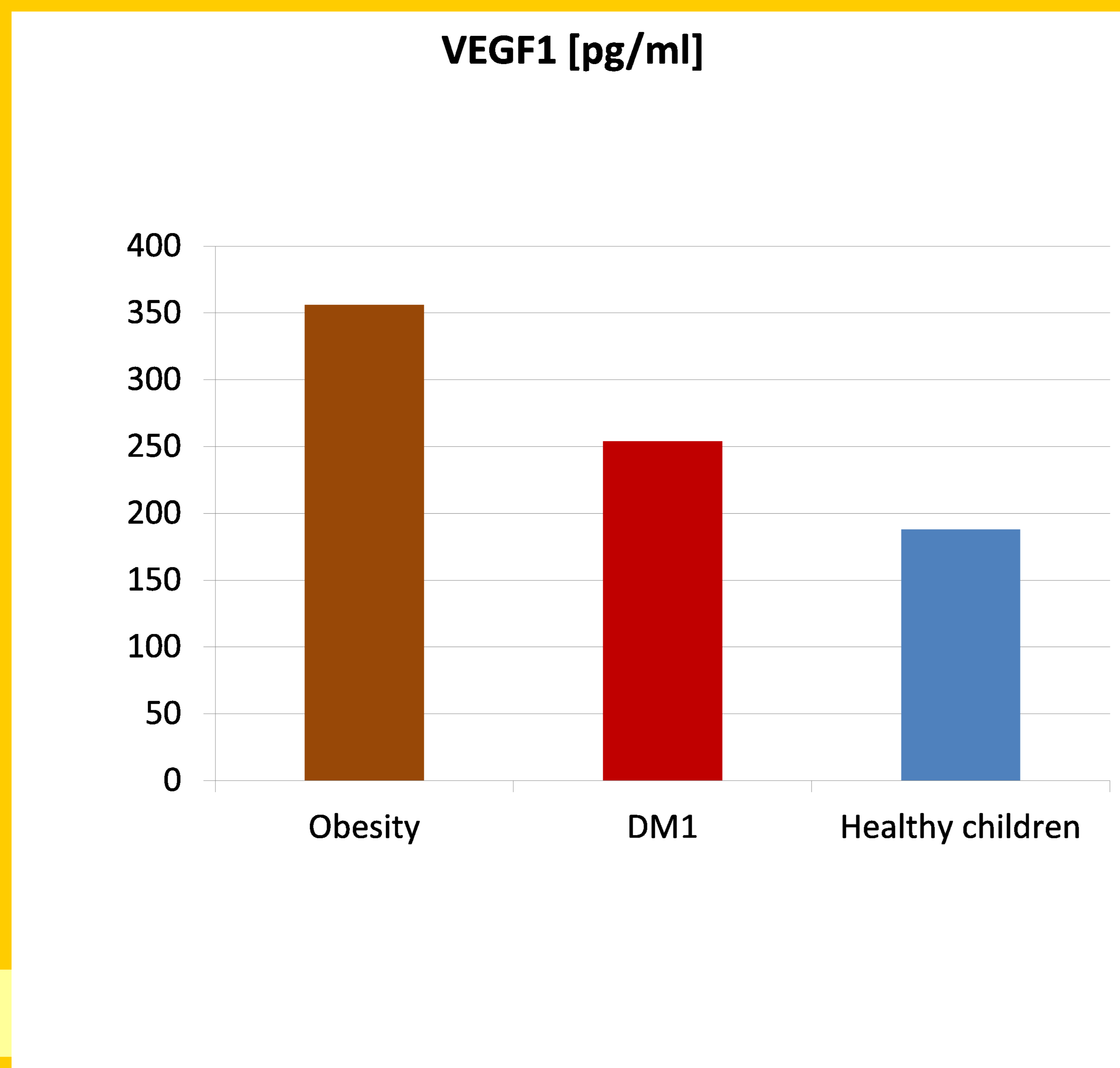
Iwona Ben-Skowronek, Iga Kapczuk, Natalia Stapor, Bożena Banecka

Department of Pediatric Endocrinology and Diabetology Medical University
20-093 Lublin, Prof. Antoni Gebala Street 6, Poland

OBJECTIVES

Vascular endothelial growth factor (VEGF) is a signal protein produced by cells that stimulates vasculogenesis and angiogenesis. It is part of the system that restores the oxygen supply to tissues when blood circulation is inadequate. Serum concentration of VEGF is high in bronchial asthma and diabetes mellitus. Overexpression of VEGF can cause vascular disease in the retina of the eye and other parts of the body.

The aim of this study is comparison between circulating VEGF levels in children with diabetes type 1, obese and healthy children



High levels in peripheral blood – marker of vasculogenesis VEGF is more connected with obesity than with diabetes type 1.

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Title: WHICH GROUP OF CHILDREN ACHIEVED THE BEST RESULTS DURING INSULIN PUMP THERAPY – LONG-TERM OUTCOME IN CHILDREN WITH TYPE 1 DIABETES?

Author: Iwona Ben-Skowronek

Topic: Fat metabolism and obesity

No conflict of interest

METHODS

The study concerned 90 children with diabetes type 1, 60 children with obesity without diabetes and 60 healthy children. The blood has been taken fasten from peripheral vein. The VEGF was checked by ELISA in all children.

RESULTS

The VEGF mean levels were highest in children with obesity 356,55 pg/ml (SD 169,44 pg/ml). In children with DM1 mean VEGF was 254,88 pg/ml (SD 167,89 pg/ml). The lowest levels of VEGF was observed in group healthy children: mean 188,75 pg/ml (SD 144,88 pg/ml). We noticed statistic significant differences between group of diabetic and obese children and healthy children. The results were correlated with BMI – correlation coefficient 0,23.

Angiogenesis and vasculogenesis depend on several cytokines/chemokines and their associated tyrosine kinase receptors. A key player in both these processes is the vascular endothelial growth factor (VEGF), also called the vascular permeability factor. [VEGF binds with high affinity and activates two tyrosine kinase receptors, VEGFR-1 (Flt-1) and VEGFR-2 (KDR in humans/Flk-1 in mice). These receptors regulate physiological and pathological angiogenesis. VEGF is the important growth factor involved in diabetic retinopathy.

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