

Effect of Metformin on Vascular Function in Children With Type 1 Diabetes: A 12-Month Randomized Controlled Trial.

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- Children with type 1 diabetes have vascular dysfunction preceding atherosclerosis. Early interventions are needed to reduce cardiovascular disease.
- In a 12-month randomized, placebo-controlled trial which evaluated the effect of metformin (up to 1 g twice a day) on vascular function in 90 children with type 1 diabetes, it was observed that metformin improved HbA1c at 3 months (P = 0.001) as well as:
 - Vascular function measured by brachial artery ultrasound [flow-mediated dilatation/glyceryl trinitrate-mediated dilatation (GTN)].
 - No difference in hypoglycemia or diabetic ketoacidosis vs. placebo.

Metformin improved vascular smooth muscle function and HbA1c, and lowered insulin dose in type 1 diabetes children. These benefits and good safety profile warrant further consideration of its use.