

## عنوان مقاله:

Vitamin D<sup>3</sup> Induces Gene Expression of Ox-LDL Scavenger Receptors in Streptozotocin-Induced Diabetic Rat Aortas:  
New Insight into the Role of Vitamin D in Diabetic Atherosclerosis

## محل انتشار:

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## خلاصه مقاله:

**Background:** Several lines of evidence suggest that oxidized LDL (Ox-LDL) scavenger receptors play a crucial role in the genesis and progression of diabetic atherosclerosis. This study aimed to elucidate the effect of vitamin D<sup>3</sup> on gene expression of lectin-like oxidized LDL receptor-1 (LOX-1), scavenger receptor-A (SR-A), Cluster of Differentiation 36 (CD36), and Cluster of Differentiation 68 (CD68) as the main Ox-LDL receptors in streptozotocin (STZ)-induced diabetic rat aortas. **Methods:** Eighteen Sprague-Dawley rats were randomly divided into three groups of six rats each. Two rats died during the study so five rats from each group were analyzed at the study's end. Diabetes was induced in overnight starved rats in two of the groups by intraperitoneal injections of 60 mg/kg of STZ. The vitamin D<sup>3</sup>/diabetic group then received weekly intraperitoneal injections of 5000 IU/kg of vitamin D<sup>3</sup> dissolved in cottonseed oil for four weeks, diabetic controls received cottonseed oil, and healthy controls received sterile saline weekly for the same period. At the end of the four-week study period the animals were killed and the aortas were collected to examine the mRNA expression using real-time polymerase chain reaction (RT-PCR). **Results:** SR-A and CD36 mRNA expression were significantly greater in the vitamin D<sup>3</sup>/diabetic rats than in both the diabetic control and healthy control rats. CD68 and LOX-1 expression were greater in the vitamin D<sup>3</sup>/diabetic rats than in the diabetic control and healthy control rats, respectively. **Conclusions:** Vitamin D<sup>3</sup> may increase the risk of diabetic atherosclerosis by inducing scavenger receptors expression.

**کلمات کلیدی:**

Atherosclerosis, Diabetes, Ox-LDL, Scavenger receptor

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