

عنوان مقاله:

Impact of SULF1 Gene on Angiogenesis

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خلاصه مقاله:

Single-gene disorders occur when mutation in a gene causing alteration of gene function while in multifactorial disorders, mutations occur in multiple genes, and these are usually coupled with environmental causes. In addition, in a multifactorial disorder such as diabetes, the complication is under the influence of different genes. For example, in diabetic retinopathy many genes are involved including genes related to angiogenesis. One of these genes is SULF1. Studying the function and molecular bases of the mutations in these genes plays an important role in understanding the pathology of diseases and is helpful in management, treatment and even prevention of them. It has been identified that SULF1 can interfere in signaling of many heparan binding growth factors and morphogens. Heparan sulfate (HS) proteoglycans are glycoproteins which regulate many signaling pathways. HS is added to proteins during Golgi modifications. Sulfatase 1 is a catalytic enzyme which removes sulfate groups from HS of proteoglycans. The angiogenesis-related studied molecules which can be regulated by heparan sulfate including VEGF, FGF, Wnt, BMP, HGF, HB-EGF and SHH. In this review, we have focused on the role of these signaling molecules on angiogenesis and the role of SULF1 in their regulation.

کلمات کلیدی:

Angiogenesis, SULF1 gene, Heparan sulfate, Sulfatase1 enzyme

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