Impact of The Protective Renin-Angiotensin System (RAS) on The Vasoreparative Function of CD34+ CACs in Diabetic Retinopathy

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The protective role of CACs in diabetic retinopathy (DR) has been suggested. Accumulating evidence suggests that the protective role of CACs in diabetic retinopathy (DR) involves the vasoreparative function of circulating angiogenic cells (CACs). In diabetes with microvascular complications, CD34+ CACs have been implicated in various pathological processes, including angiogenesis, vasorepair, and vascular remodeling. However, the underlying molecular mechanisms of the vasoreparative function of CD34+ CACs in diabetic retinopathy remain unclear.

The vasoreparative function of CACs was investigated in a cohort of diabetic subjects with microvascular complications. Angiogenic and vasoreparative factors were assessed in diabetic retinopathy (DR) patients and compared to controls. CD34+ CACs were isolated from peripheral blood of diabetic and control subjects. The expression of key angiogenic and vasoreparative factors was evaluated in vitro using qPCR.

Results:
- The vasoreparative function of CD34+ CACs in diabetic retinopathy was investigated.
- The expression of key angiogenic and vasoreparative factors was assessed in diabetic retinopathy (DR) patients and compared to controls.

Conclusions:
- The protective role of CD34+ CACs in diabetic retinopathy (DR) involves the vasoreparative function of circulating angiogenic cells (CACs).
- The vasoreparative function of CD34+ CACs in diabetic retinopathy is mediated by the protective renin-angiotensin system (RAS).

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References:

Further information:
For more details, please visit https://ntrs.nasa.gov/search.jsp?R=20160006388.