Endothelial progenitor cells (EPCs) therapy represents a novel strategy for a variety of diseases. Interestingly, spleen acts as an important reservoir during EPCs trafficking. Therefore, we investigated the involvement of SDF-1/CXCR4 in EPCs settlement in spleen. EPCs were cultured and characterised as previously described methods. Then, 1×10^6 EPCs were labelled with DiI-acLDL and intravenously infused into C57/BL6 mice. Immunohistochemical staining showed homing of transplanted EPCs in spleen 24 hours later, indicating recruitment of transplanted EPCs in spleen. Physiological distribution of EPCs in different organs was evaluated by fluorescence-activated cell sorting (FACS) analysis of Sca-1/Flk-1 positive cells, which demonstrated physiological settlement of EPCs in spleen. Removal of splenic niche by splenectomy augmented circulating EPCs 12 and 24 hours later, indicating an important role of spleen on modulation of EPCs circulating dynamics. To determine the involvement of SDF-1/CXCR4 in EPCs migration and homing, expression of SDF-1 in spleen and CXCR4 in EPCs were revealed by ELISA and RT-PCR. Modified Boyden chamber assay disclosed that SDF-1(10, 100 ng/ml) induced EPCs migration in vitro. Injection of SDF-1 protein into spleen increased the number of splenic EPCs, while local administration of SDF-1 antibody or block of SDF-1/CXCR4 axis with AMD3100 attenuated their migration and settlement. These results indicate that the SDF-1/CXCR4 axis is involved in recruitment of EPCs to spleen which will deepen our understanding on EPCs circulating kinesics.

[gw22-e1022] **SPLEEN RECRUITS ENDOTHELIAL PROGENITOR CELLS (EPCS) VIA SDF-1/CXCR4 AXIS**

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