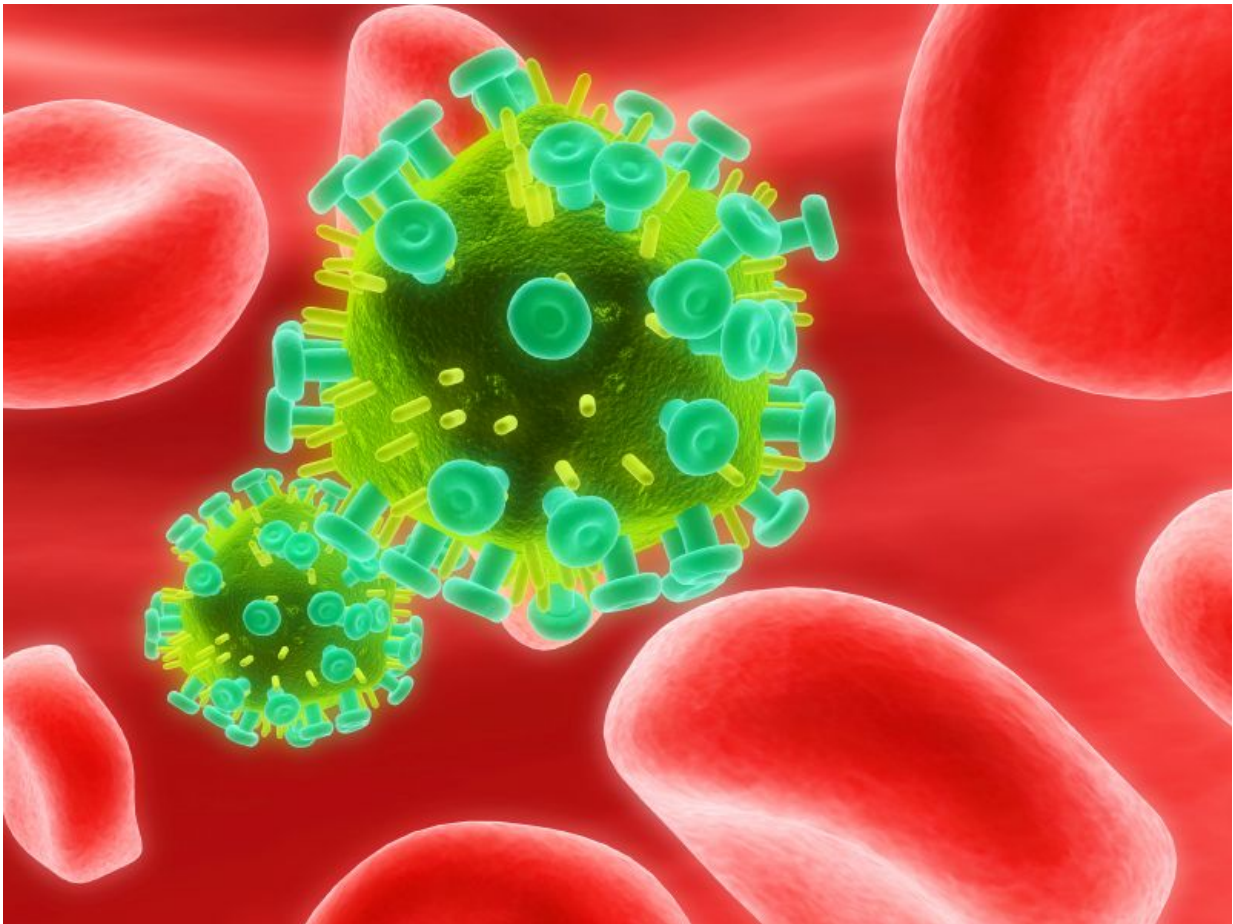


# In HIV, tissue factor-expressing monocytes trigger coagulation

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(HealthDay)—A specific subset of tissue factor (TF)-expressing

monocytes persist after virological suppression and trigger the coagulation cascade by activating factor X in HIV, according to a study published online Aug. 30 in *Science Translational Medicine*.

Melissa E. Schechter, from Leidos Biomedical Research Inc. in Frederick, Maryland, and colleagues explored the inflammatory and coagulation pathways in HIV infection in order to better optimize clinical care.

The researchers identified a specific subset of monocytes that express TF, persist after virological suppression, and activate factor X to trigger the [coagulation cascade](#). A distinct gene signature was observed in this subset of monocytes expressing TF, with upregulated innate immune markers and evidence of robust production of multiple proinflammatory cytokines (including interleukin [IL]-1 $\beta$ , tumor necrosis factor- $\alpha$ , and IL-6) ex vivo and in vitro upon lipopolysaccharide stimulation. The findings were validated in a nonhuman primate model, showing an association for TF-expressing inflammatory monocytes with SIV-related coagulopathy in the progressive (pigtail macaques [PTMs]) but not the nonpathogenic SIV infection model. In HIV and SIV infection, testing of Ixolaris, an anticoagulant that inhibits the TF pathway, potently blocked functional TF activity in vitro without affecting monocyte responses to toll-like receptor stimulation. In vivo treatment of chronically infected PTMs with Ixolaris correlated with significant reductions in D-dimer and immune activation.

"These data suggest that TF-expressing monocytes are at the epicenter of inflammation and coagulation in chronic HIV and SIV [infection](#)," the authors write.

**More information:** [Abstract](#)  
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