

Doxycycline may cut bleeding with ventricular assist device

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(HealthDay)—Doxycycline can potentially cut left ventricular assist device (LVAD)-associated bleeding, according to a study published online Oct. 7 in *JACC: Heart Failure*.

Carlo R. Bartoli, M.D., Ph.D., from the University of Pennsylvania in Philadelphia, and colleagues used whole blood samples from 15 donors to quantify the dose relationship between doxycycline and [plasma](#) ADAMTS-13 activity before shear stress (n=10). Plasma was exposed to LVAD-like supraphysiologic shear stress (~ 175 dyne/cm²).

The researchers found that doxycycline significantly decreased ADAMTS-13 activity and the activity of recombinant ADAMTS-13 by 21 percent. The same pattern of vWF [degradation](#) as previously reported for LVAD patients was observed, and vWF:collagen binding activity

decreased significantly after plasma was exposed to shear stress. VWF:collagen binding activity was significantly restored as a result of [doxycycline](#) significantly decreasing ADAMTS-13 activity and the activity of recombinant ADAMTS-13 by 18 percent, protecting large vWF multimers from degradation, and significantly decreasing the five smallest vWF fragments.

"ADAMTS-13 is a clinical target to reduce vWF degradation, improve vWF function, and potentially reduce bleeding during LVAD support," the authors write.

More information: [Abstract](#)

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