

## The Pathology of Chronic Post-Thrombotic Venous Obstruction is not Chronic Thrombus

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### Editorial

Post-thrombotic venous obstruction is an important contributor to Post-Thrombotic Syndrome (PTS), especially when it involves the common femoral and iliac vein. The term “chronic thrombus” is used commonly to describe the chronic ultrasound findings or even the luminal changes demonstrated by contrast phlebograms. The recent report by Comerota et al. [1] clearly describes the histology of the tissue causing post-thrombotic venous obstruction 7 months to 25 years after the episode of acute thrombosis.

Endophlebectomy of the common femoral vein was performed in 16 patients with post-thrombotic iliofemoral venous obstruction causing incapacitating PTS. Following the endophlebectomy the obstructed iliac veins (and vena cava if necessary) were recanalized with balloon venoplasty and stenting to provide unobstructed venous drainage from the profunda femoral vein to the vena cava [2,3] The tissue excised from the vein was a white fibrous-like tissue with no evidence of thrombus (**Figure 1**).

The histologic examination and tissue typing of the specimens excised from the common femoral veins demonstrated that this tissue was collagen, predominately type 1 collagen. On H and E stains, there was seen abundant collagen, neovascularization and chronic inflammation (**Figure 2**). Observations notably failed to show any thrombus. Biomarker studies showed a high concentration of VEGF-R, especially in younger specimens, less than 1 year since the acute DVT. There was increased vWF in older specimens, greater than 10 years since the acute DVT, consistent with the stability of the older specimens.

The terminology used by physicians to describe tissue is important, as it may have implications for patient care. The term “chronic thrombus” suggests that this tissue might respond to thrombolysis which, of course it will not, since there is no thrombus. This histologic analysis indicates that the term “chronic thrombus” is inaccurate, misleading, and should be abandoned. When intraluminal venous obstruction is described on imaging studies, the term “findings consistent with chronic post-thrombotic venous obstruction” appears appropriate.

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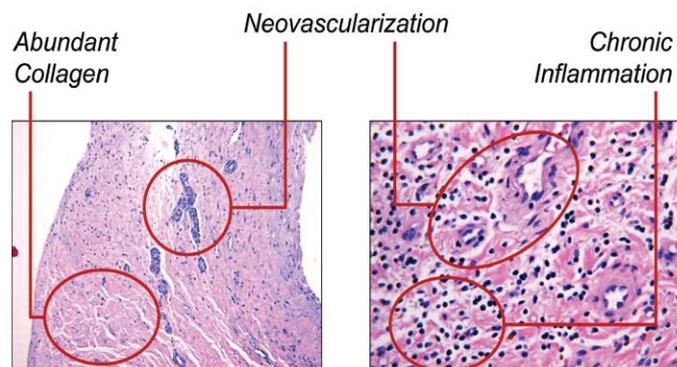
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**Figure 1** Specimens removed from the Common Femoral Veins (CFV) of a patient undergoing bilateral CFV endovenectomy with ilio caval recanalization 6 years following his extensive iliofemoral/vena caval thrombosis.



**Figure 2** Hematoxylin and eosin stain of typical endovenectomy specimen showing abundant collagen, neovascularization, and chronic inflammation.

## References

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- 3 Vogel D, Comerota AJ, Al-Jabouri M, Assi ZI (2012) Common femoral endovenectomy with ilio caval endoluminal recanalization improves symptoms and quality of life in patients with postthrombotic iliofemoral obstruction. *J Vasc Surg* 55: 129-135.