# Supplementary Methods

## Endovascular thrombectomy procedure

Typically, a stent retriever was used as the frontline endovascular modality. An 8- or 9-F balloon guide catheter (BGC) was routinely used; a distal access catheter was reserved for severely tortuous arteries. A stent retriever was delivered and deployed over the thrombus via a 0.021- or 0.027-inch microcatheter. The stent retriever was deployed a few minutes prior to retrieval. For retrieval, the balloon of the BGC was inflated; the stent retriever and microcatheter were carefully withdrawn with continuous aspiration through the BGC using a 20- or 50-mL syringe. The use of concurrent contact aspiration with a stent retriever for thrombectomy was reserved for rare and challenging cases that did not respond to the standard approaches. This thrombectomy procedure was repeated until modified Thrombolysis In Cerebral Infarction 2b or 3 was achieved. Decisions to cease attempts or to transition to an alternative endovascular technique were made at the discretion of the operating physician.

## Thrombus collection and immunohistochemical staining

Retrieved thrombi were immediately fixed in 4% paraformaldehyde, sent to a laboratory, embedded in paraffin, and stored until use. The 4-μm-thick sections were treated with xylene and passed through an ethanol gradient. The sections underwent heat-induced epitope retrieval, except for erythrocytes and fibrin. Subsequently, the sections were soaked in a solution containing 10 mM glycine in phosphate-buffered saline; non-specific binding was blocked using a mixture of 1% horse serum and 5% non-fat milk in Tris-buffered saline for 20 minutes. The thrombi were reacted with primary antibodies against erythrocytes, platelets, fibrin, lymphocytes, neutrophils, monocytes, tissue factors, and neutrophil extracellular traps. The sections were incubated at 37°C for 2 hours for monocytes or overnight at 4°C for the others, followed by a secondary antibody reaction at 37°C for 30 minutes with 1:200-diluted biotin-conjugated Horse Anti-Mouse IgG antibody (BA-2000, Vector Laboratories, Peterborough, UK) for monocytes or biotin-conjugated Goat Anti-Rabbit IgG antibody (BA-1000, Vector Laboratories) for the others. After secondary antibody reaction with an avidin/biotin/horseradish peroxidase complex, the color of the positive signals was developed by incubating the slides in 3,3′-diaminobenzidine solution (D5637; Sigma-Aldrich, Burlington, MA, USA). The slides were counterstained with hematoxylin and subsequently mounted using Permount Mounting Medium (Fisher Scientific, Waltham, MA, USA).

## Imaging analysis of thrombi

Images of the stained thrombi were acquired using a whole-slide scanner (Leica Biosystems, Richmond, IL, USA) or Stereo Investigator Imaging system (MBF Bioscience, Williston, VT, USA) equipped with a light microscope (Axio Imager D2; Carl Zeiss Co., Ltd., Jena, Germany). The whole-slide scanner captured images at a resolution of 0.2528 M/pixel. Meanwhile, the Stereo Investigator Imaging system utilized the Virtual Slice module to acquire images at 400× magnification. This module automatically collects a series of contiguous images of a specimen using a motorized stage and merges them into a single-image montage representing the entire thrombus.

The acquired images were analyzed using an Automated Region-of-interest-based Image Analysis (ARIA) software program designed for automated composition analysis. ARIA streamlines all traditional processes necessary for the imaging analysis of immunohistochemistry, allowing for rapid and less operator-dependent analysis. Briefly, the ARIA automatically draws a contour around the thrombus area with adjustable handles for contour optimization. Following contouring, color deconvolution was performed to separate the colors into an immunohistochemistry color space for quantitative analysis. The ARIA then calculates the pixel densities for the total and stained areas of the thrombus. For the quantitative analysis, each thrombus composition fraction (%) was determined by calculating the pixel density as a percentage of the total thrombus area.