Table SI. Clinical characteristics of the patients included in the study.

| Characteristic                              | CVD (n=62)         | HC (n=52)        |
|--------------------------------------------|--------------------|-----------------|
| Median age (IQR), years                    | 33 (22-40)         | 34 (27-41)      |
| Median gestational age (IQR), weeks        | 40.5 (39-41.5)     | 41 (39-42)      |
| C-section delivery, n (%)                  | 12 (19.4)          | 9 (17.3)        |
| Vaginal delivery, n (%)                    | 50 (80.6)          | 43 (82.7)       |
| Varicose vein, n (%)<sup>a</sup>           |                    |                 |
| C1                                         | 37 (59.7)          | 0 (0)           |
| C2                                         | 21 (33.8)          | 0 (0)           |
| C3                                         | 4 (6.5)            | 0 (0)           |
| Previous pregnancies, n (%)                | 33 (53.2)          | 19 (36.5)       |
| Previous abortions, n (%)                  | 14 (22.6)          | 9 (17.3)        |
| Regular menstrual cycles, n (%)            | 50 (80.6)          | 42 (80.7)       |
| Sedentary profession, n (%)                | 41 (66.1)          | 40 (76.9)       |

<sup>a</sup>measured using Clinical-Etiology-Anatomy-Pathophysiology classification. IQR, interquartile range; CVD, chronic venous disease; HC, healthy controls.
| Gene name | Forward sequence (5'→3') | Reverse sequence (5'→3') | Annealing temperature |
|-----------|--------------------------|--------------------------|-----------------------|
| TBP       | TGCACAGGAGCCAAGAGTGAA    | CACATCACAGCTCCCCACCA     | 60˚C                  |
| EGFL7     | TCGTGCAGCGGTGTTGACCAG    | GCGGTAGGCAGCTTATAGATG    | 59˚C                  |
| TE        | GTGTATACCCAGGGTCGTG    | CGAACATTTGCTGCTGTTTAG    | 64˚C                  |
| FBLN-4    | GTCTTGGACATGCCAGGATTA   | TGGAGATCGTGAGGATAGTTTG   | 60˚C                  |
| FBN-1     | GTGTAAATGTACAAACAGTCAGCA | ATAGGAACAGACAGCAGCTTGTGA | 60˚C                  |
| LOX       | GCAGATGTCAGAGATTATGATCA | ATCGCCTGTGATGACATAGT     | 60˚C                  |
| LOXL-1    | GCACCTCTCATACCCAGGGC    | TGGCAGTCGATGTCGCGCAT     | 60˚C                  |

TBP, TATA-box binding protein; EGFL7, EGF-like domain-containing protein 7; TE, tropoelastin; FBLN-4, fibulin 4; FBN-1, fibrillin 1; LOX, lysyl oxidase; LOXL-1, lysyl oxidase-like 1.
Table SIII. Primary and secondary antibodies used for immunohistochemistry analysis.

### A. Primary antibodies

| Antibody | Species | Dilution | Provider | Cat. no. | Protocol specifications |
|----------|---------|----------|----------|----------|-------------------------|
| EGFL7    | Rabbit (monoclonal) | 1:500 | Abcam | ab256451 | EDTA (pH 9) before incubation with blocking solution |
| TE       | Rabbit (polyclonal) | 1:750 | Dr Mecham, Washington University, USA | NA | NA |
| FBLN-4   | Rabbit (monoclonal) | 1:250 | Abcam | ab125073 | Citrate buffer in heat (pH 6.0) |
| FBN-1    | Rabbit (polyclonal) | 1:100 | Abcam | ab53076 | Triton X100 0.1% in PBS, 10 min |
| LOX      | Rabbit (polyclonal) | 1:500 | Dr Sommer, CNRS-UMR (Paris, France) | NA | Glycine HCl, 30 min at RT. 0.2% Hyaluronidase, 30 min at 42°C |
| LOXL-1   | Rabbit (polyclonal) | 1:250 | Dr Sommer, CNRS-UMR (Paris, France) | NA | Glycine HCl, 30 min at RT. 0.2% Hyaluronidase, 30 min at 42°C |

### B. Secondary antibodies

| Antibody | Species | Dilution | Provider | Cat. no. | Protocol specifications |
|----------|---------|----------|----------|----------|-------------------------|
| IgG      | Mouse polyclonal | 1:1,000 | Sigma-Aldrich; Merck KGaA | B5283 | NA |

TBP, TATA-box binding protein; EGFL7, EGF-like domain-containing protein 7; TE, tropoelastin; FBLN-4, fibulin 4; FBN-1, fibrillin 1; LOX, lysyl oxidase; LOXL-1, lysyl oxidase-like 1; RT, room temperature; NA, not applicable; CNRS-UMR (Centre national de la recherche scientifique, Paris, France).