A 67-year-old woman presented with progressive dyspnea and both legs swelling for recent 2 months. She denied any known history of systemic illness. Physical examination shows clear lungs, normal heart sounds without murmurs and pitting edema of his lower extremities bilaterally. The laboratory investigation data were as follows: leukocyte 6110 cells/µl; hemoglobin 9.5 g/dl; platelets 191 000/µl; hematocrit 28.4%; serum creatinine 0.74 mg/dl; serum albumin 1.7 g/dl; total cholesterol 485 mg/dl; triglyceride 196 mg/dl; and an abnormal result on urinalysis, showing proteinuria with spot urine protein of 2080 mg/dl. Computed tomography of the thorax and abdomen (Figure 1) demonstrated concurrent right pulmonary artery thromboembolism (thin arrow) and bilateral renal-vein thrombosis (thick arrows). Nephrotic syndrome-associated thromboembolic disease was diagnosed. A renal biopsy revealed diffuse membranous glomerulonephritis. She underwent prophylactic Inferior vena cava filter placement and percutaneous intra-venous thrombolytic therapy. She was doing well after discharge.

The risk of thromboembolic complication should be highly concerned in ~25% of patients with nephrotic syndrome due to urinary loss of clotting inhibitors such as antithrombin III, protein C and protein S.¹⁻³

Deep vein and renal vein thrombosis are two most common sites for thromboembolic complications, but other affected locations include the pulmonary artery and the cerebral veins.⁴ The risk of thromboembolic complication among the causes of nephrotic syndrome appears to be highest in patients with membranous nephropathy.⁴

Photographs and text from: J.-C. Wang, F.-Z. Wu and M.-T. Wu, Department of Radiology, Kaohsiung Veterans General Hospital, Kaoh siung, Taiwan.

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References