Successful PTA to Paget-Schroetter Disease in a Case With Antiphospholipid Antibody Syndrome

Chung-Ho Hsu, Pei-Ying Pai, Peng-Han Lu, Kuo-Cheng Chang, Jui-Sung Hwang
Division of Cardiology, Department of Medicine, China Medical University Hospital, Taichung, Taiwan

Introduction
Paget-Schroetter disease, also known as Paget-von Schroetter disease or upper extremity deep vein thrombosis (DVT), is a medical condition in which blood clots form in the deep veins of the arm. These DVT typically occur in the axillary vein or subclavian vein. The standard treatment include anticoagulation and thrombolysis therapy. Here we report a case of antiphospholipid antibody syndrome who developed Paget-Schroetter disease. Successful percutaneous transluminal angioplasty (PTA) was performed after medical extension DVT was encountered.

Case Report
A 32 year-old man without prior medical history suffered from acute swelling of left arm for one week after left shoulder sprain after lifting heavy objects. Ultrasound of breast developed for 3-4 days hence he called on our ER for help. Cell (Figure 1) disclosed no specific finding and Chest CT disclosed thrombus over right lower pulmonary artery and left subclavian and axillary vein (Figure 2). U ltrasound also disclosed the thrombus in left subclavian and axillary vein (Figure 3).

Fig. 1. Utrasound disclosed the thrombus in left subclavian vein.

During hospitalization, antiphospholipid antibody syndrome with protein S deficiency, hyperhomocysteinemia was also diagnosed. His homocysteine level was 15 umol/L (8-15.43), anti-endothelial IgG was positive, Beta 2 glycoprotein IgG was positive (31.1 U/mL, normal 0-20), IgM was positive (0.6 unit/L, normal 0-20), and protein S was 48.8% (normal > 60).

Fig. 2. Chest CT disclosed the thrombus over right lower pulmonary artery and left subclavian and axillary vein.

Standard dose of heparin and enoximone was given with poor effect and peski acute arm swelling. Ultrasound disclosed recanalization but much residual thrombus (Figure 4). Medical re-extension DVT was noted hence PTA was performed (Figure 5).

Fig. 3. Ultrasound disclosed the thrombus in left subclavian and axillary vein.

After PTA, ultrasound infusion was given directly via the sheath left over the left subclavian vein. Follow up angiography two days later disclosed patent left subclavian vein with little residual thrombus. Ultrasound of arm showed patent left subclavian vein (Figure 6) and arm swelling resolved after above maneuvers (Figure 7).

Fig. 4. Medical re-extension DVT was noted, hence PTA was performed.

In conclusion, PTA can be an effective treatment modality when medical re-extension DVT was noted, such as in this case with Paget-Schroetter disease.