Idiopathic Pulmonary Vein Thrombosis: A Case Report and Review of the Literature

M Taha, J Weinberger, M Shokr, A Soubani

Citation

M Taha, J Weinberger, M Shokr, A Soubani. *Idiopathic Pulmonary Vein Thrombosis: A Case Report and Review of the Literature*. The Internet Journal of Pulmonary Medicine. 2019 Volume 19 Number 1.

DOI: 10.5580/IJPM.54070

Abstract

Pulmonary vein thrombosis (PVT) is a rare but potentially serious condition. Known etiologies of PVT include intrapulmonary neoplasm, postoperative complications after lobectomy, lung transplantation, as a complication of radiofrequency ablation and hypercoagulable state. Here, we describe an extremely rare case of idiopathic pulmonary venous thrombosis (PVT) in addition to reviewing the previously reported cases.

INTRODUCTION

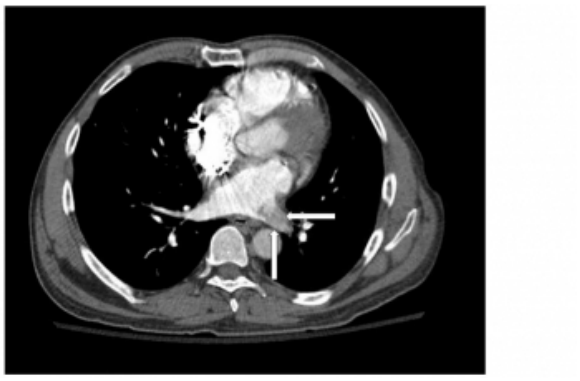
Pulmonary vein thrombosis (PVT) is a rare but potentially serious condition. Known etiologies of PVT include intrapulmonary neoplasm, postoperative complications after lobectomy, lung transplantation, as a complication of radiofrequency ablation and hypercoagulable state. Here, we describe an extremely rare case of idiopathic pulmonary venous thrombosis (PVT) in addition to reviewing the previously reported cases.

CASE REPORT

A 65-year-old male with past medical history of coronary artery disease, heart failure with preserved ejection fraction, symptomatic bradycardia status post permanent pacemaker, history of provoked deep venous thrombosis and pulmonary embolism (DVT/PE), seizure disorder and bilateral blindness due to glaucoma presented with syncopal episode. The patient was on his way to the bathroom when he started to feel sweaty and hot and then passed out. He denied any chest pain, palpitation, shortness of breath, nausea or abdominal pain. He denied any shaking movements, passing urine or tongue biting. His medications were aspirin, atorvastatin, levetiracetam, lisinopril and metoprolol. He has no family history of clotting disorders. Other than bilateral blindness, his physical exam was unremarkable including cardiovascular, neurological and respiratory exam. Blood work was unremarkable. EKG showed normal sinus rhythm. Echo was normal. Chest x-ray was within normal limits. Pacemaker interrogation showed no arrhythmias. A subsequent CT pulmonary angiogram (CTA) (figure 1) revealed filling defect in the left lower pulmonary vein suspicious for thrombus. The patient was unable to have an MRI as he had a pacemaker. The patient was discharged on warfarin with a plan to repeat CTA and screen for thrombophilia, but the patient was lost to follow up.

Figure 1

The CT angiography reveals a well-defined filling defect in left lower pulmonary vein.



DISCUSSION

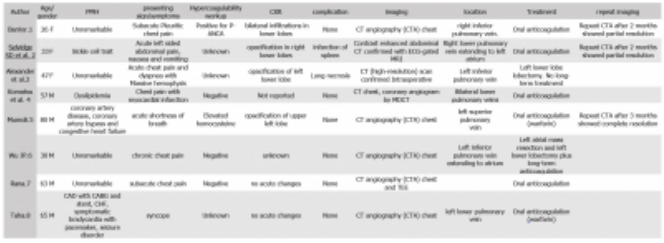
After reviewing the literature, we found only eight cases of idiopathic PVT have been reported, including the current case (see Table 1). Presenting symptoms in the series are not specific but mostly chest pain and shortness of breath. Disease can occur in young and elderly. Males and females are equally affected. There are two reported complications related to idiopathic PVT: infarction of spleen and lung

necrosis. CXR findings are not specific but may show infiltrate in lower lobes. Most of the cases diagnosed with using CTA. Other modalities used to confirm diagnoses are transesophageal echocardiography (TEE) and cardiac gated magnetic resonance imaging (MRI). Most of thrombus occur in right or left lower pulmonary veins compared to upper pulmonary veins. The appropriate treatment for PVT remains unclear but oral anti-coagulation appears to be the proper treatment. Duration of anticoagulation is unknown but among the eight cases, three had repeated CTA done. One of them showed resolution of thrombus after 3 months but the other two cases showed only partial resolution after 2 months.

CONCLUSION

Idiopathic PVT is rare disease with nonspecific presentation and potentially major complications. The best modality used for diagnosis is CTA. Most of the cases treated with oral anticoagulation but the duration remains unknown.

Table 1



References

1. Burri E, Duwe J, Kull C, et al. 2006.Pulmonary vein thrombosis after lower lobectomy of the left lung. J. Cardiovasc. Surg. 47(5):609–612.
2. Selvidge SD, and Gavant ML. 1999. Idiopathic pulmonary vein thrombosis: detection by CT and MR imaging. AJR Am. J. Roentgenol. 172:1639–1641.
3. Alexander GR, Reddi A, and Reddy D. 2009. Idiopathic pulmonary vein thrombosis: a rare cause of massive hemoptysis. Ann. Thorac. Surg. 88:281–283.
4. Komatsu S, Kamata T, Imai A, et al. 2011. Idiopathic pulmonary vein thrombosis complicated with old myocardial infarction detected by multidetector row computed tomography. J. Cardiol. Cases 3:e94–e97.
5. Mumoli N, and Cei M. 2012. Idiopathic pulmonary vein thrombosis. J. Emerg. Med. 42(2):182–183.
6. Wu JP, Wu Q, Yang Y, et al. 2012. Idiopathic pulmonary vein thrombosis extending to left atrium: a case report with a literature review. Chin. Med. J. 125(6):1197–1200.
7. Rana MA, Tilbury N, Kumar Y, et al. 2016. Idiopathic Pulmonary Vein Thrombus Extending into Left Atrium: A Case Report and Review of the Literature. Case Rep Med. Volume 2016, Article ID 3528393.

Author Information

Muhanad Taha
Department of Internal Medicine, Detroit Medical Center/ Wayne State University
USA

Jarret Weinberger
Department of Internal Medicine, Detroit Medical Center/ Wayne State University
USA

Mohamed Shokr
Cardiology Department, Detroit Medical Center/ Wayne State University
USA

Ayman Soubani
Pulmonary Department, Detroit Medical Center/Wayne State University
USA