

# Understanding Venous Thromboembolism: Causes, Symptoms, Diagnosis and Treatment

James David\*

Department of Cardiology, University of Ghana Medical centre LTD, Ghana

## Introduction

Venous thromboembolism (VTE) is a serious medical condition that occurs when a blood clot forms in a vein, usually in the leg or pelvis, and then travels to the lungs. It can be life-threatening if not treated promptly, and it affects millions of people worldwide each year. In this opinion article, I will discuss the impact of VTE on individuals and society as a whole, and the steps that can be taken to prevent and treat this condition [1].

VTE can have a significant impact on individuals, causing pain, swelling, and in severe cases, death. The risk of VTE is higher in people who have had surgery, have cancer, are pregnant, or have a family history of the condition. It can also be caused by prolonged periods of sitting or immobility, such as during long flights or hospital stays [2].

While VTE is a serious health issue for individuals, it also has a significant impact on society. The cost of treating VTE can be high, and it can lead to extended hospital stays and long-term disability [3,4]. Furthermore, it can reduce a person's ability to work and negatively impact their quality of life, as well as the lives of their family members and caregivers.

Prevention is key when it comes to VTE, and there are several steps that individuals can take to reduce their risk of developing this condition. This includes staying active, maintaining a healthy weight, quitting smoking, and avoiding long periods of immobility. In addition, those at high risk of VTE may be prescribed medication or compression stockings to help prevent blood clots from forming [4].

If VTE does occur, prompt treatment is essential. This typically involves medication to prevent the clot from growing and to prevent new clots from forming, as well as measures to prevent the clot from traveling to the lungs.

## Description

VTE is a serious medical condition that can have a significant impact on individuals and society. While prevention is key, prompt treatment is essential if VTE does occur [5]. By taking steps to reduce the risk of developing VTE and seeking medical attention if symptoms occur, individuals can help protect their health and well-being. Additionally, healthcare providers and policymakers should work together to improve awareness and prevention efforts, as well as to ensure that effective treatments are accessible to those who need them.

**Deep vein thrombosis (DVT):** DVT is the most common type of VTE, accounting for about 90% of cases. It occurs when a blood clot forms in the deep veins of the leg, thigh, or pelvis. DVT can cause pain, swelling, and redness in the affected leg and in severe cases, it can lead to complications such as pulmonary embolism (PE).

**Pulmonary embolism (PE):** PE occurs when a blood clot from a DVT travels to the lungs and blocks a blood vessel. This can cause chest pain, shortness of breath, and in severe cases, can lead to death. PE is a serious medical emergency and requires immediate treatment.

## Other types of VTE may include

**Superficial thrombophlebitis:** This is a less common type of VTE that affects the veins near the surface of the skin. It can cause redness, swelling, and pain in the affected area, but it is typically not as serious as DVT or PE.

**Cerebral venous sinus thrombosis:** This is a rare type of VTE that affects the veins in the brain. It can cause severe headaches, vision changes, and in severe cases, can lead to a stroke.

**Upper extremity DVT:** This type of VTE affects the veins in the arms or shoulders and can cause swelling, pain, and weakness in the affected area.

In summary, the two main types of VTE are DVT and PE, but other types of VTE can also occur, affecting different areas of the body and causing varying degrees of symptoms and complications.

Symptoms of venous thromboembolism (VTE) can vary depending on the location and severity of the clot. The most common symptoms of deep vein thrombosis (DVT) are pain, swelling, warmth, and redness in the affected leg. Some people may also experience a feeling of heaviness or tightness in the leg or a dull ache in the calf. In severe cases, DVT can cause skin discoloration, ulcers, or hardening of the skin around the affected area [6,7].

Symptoms of pulmonary embolism (PE) can include chest pain, shortness of breath, rapid heartbeat, coughing up blood, or feeling lightheaded or faint [8].

Treatment for VTE typically involves anticoagulation therapy, which helps to prevent the blood clot from growing and reduces the risk of new clots forming [9-11]. This can be done through medication, such as anticoagulants or thrombolytics or through the use of compression stockings or mechanical devices that help to improve blood flow.

In severe cases of VTE, such as massive or life-threatening PE, more aggressive treatment may be necessary, including surgical interventions [12,13].

Prevention is also an important aspect of VTE management. Individuals, who are at high risk for VTE, such as those who have had surgery, are hospitalized, or have a history of blood clots, may be prescribed prophylactic anticoagulation therapy or advised to wear

\*Corresponding author: James David, Department of Cardiology, University of Ghana Medical centre LTD, Ghana, E-mail: davidj6656@hotmail.com

**Received:** 04-May-2023, Manuscript No. jcp-23-98798; **Editor assigned:** 06-May-2023, PreQC No. jcp-23-98798 (PQ); **Reviewed:** 20-May-2023, QC No. jcp-23-98798; **Revised:** 24-May-2023, Manuscript No. jcp-23-98798 (R); **Published:** 31-May-2023, DOI: 10.4172/jcp.1000198

**Citation:** David J (2023) Understanding Venous Thromboembolism: Causes, Symptoms, Diagnosis and Treatment. J Card Pulm Rehabi 7: 198.

**Copyright:** © 2023 David J. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

compression stockings to help prevent clots from forming.

## Conclusion

In summary, the symptoms of VTE can vary depending on the location and severity of the clot, and treatment typically involves anticoagulation therapy and/or mechanical interventions to prevent the clot from growing and to reduce the risk of future clots. Prevention is also important for individuals who are at high risk of VTE.

## Acknowledgement

None

## Conflict of Interest

None

## References

1. Morris TA (2011) Natural history of venous thromboembolism. *Circulation* 124: 869-884.
2. Geerts WH, Bergqvist D, Pineo GF, Heit JA, Samama CM, et al. (2008) Prevention of venous thromboembolism: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines (8th Edition). *Chest* 133: 381S-453S.
3. Essien EO, Rali P, Mathai SC (2004) Pulmonary embolism. *Med Clin North Am* 103: 594-564.
4. Heit JA, Cohen AT, Anderson FA Jr (2005) Estimated annual number of incident and recurrent, non-fatal and fatal venous thromboembolism (VTE) events in the US. *Blood* 106: 910.
5. Becattini C, Agnelli G (2016) Risk stratification and management of acute pulmonary embolism. *Hematology. Am Soc Hematol Educ Program* 2016: 404-412.
6. Lutsey PL, Zakai NA (2023) Epidemiology and prevention of venous thromboembolism. *Nat Rev Cardiol* 20: 248-262.
7. Kearon C, Akl EA, Ornelas J, Blaivas A, Jimenez D, et al. (2016) Antithrombotic therapy for VTE disease: CHEST guideline and expert panel report. *Chest* 149: 315-352.
8. Silverstein MD, Heit JA, Mohr DN, Petterson TM, O'Fallon WM, et al. (1998) Trends in the incidence of deep vein thrombosis and pulmonary embolism: a 25-year population-based study. *Arch Intern Med* 158: 585-593.
9. Stein PD, Matta F (2012) Thrombolytic therapy in unstable patients with acute pulmonary embolism: saves lives but underused. *Am J Med* 125: 465-470.
10. Tritschler T, Kraaijpoel N, Gal GL, Wells PS (2018) Venous thromboembolism: advances in diagnosis and treatment. *JAMA* 320: 1583-1594.
11. Konstantinides SV, Torbicki A, Agnelli G, Danchin N, Fitzmaurice D, et al. (2014) 2014 ESC guidelines on the diagnosis and management of acute pulmonary embolism. *Eur Heart J* 35: 3033-3069.
12. Prandoni P, Lensing AWA, Prins MH, Ghirarduzzi A, Ageno W, et al. (2009) Residual thrombosis on ultrasonography to guide the duration of anticoagulation in patients with deep venous thrombosis: a randomized trial. *Ann Intern Med* 150: 577-585.
13. Carrier M, Rodger MA, Wells PS, Righini M, Gal GL, et al. (2011) Residual vein obstruction to predict the risk of recurrent venous thromboembolism in patients with deep vein thrombosis: a systematic review and meta-analysis. *J Thromb Haemost* 9: 1119-1125.