

A Relation between Chronic, Systemic Inflammation and Risk of Venous Thromboembolism

Tian an^{1*}, and Weihui Liu¹

¹Department of Dermatology, Hoyang Hoo Hospital, China.

***Corresponding Author** : Tian an, Department of Dermatology, Hoyang Hoo Hospital, China, Email: antian2008@126.com

Received date: January 13, 2017; Accepted date: February 13, 2017; Published date: February 17, 2017.

Citation : Tian an, Weihui Liu, A relation between chronic, systemic inflammation and risk of venous thromboembolism. J. Dermatology and Dermatitis. Doi: 10.31579/2578-8949/002

Copyright : ©2017 Tian an. 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.

Abstract

People with psoriasis may have an increased risk for venous thromboembolism (VTE). Recently there has been considerable interest in whether systemic inflammation plays role on development of thromboembolism as inflammation is associated with a procoagulant state. Several recent studies demonstrated psoriasis as an increased thromboembolic risk factor among patients though the results were fairly heterogeneous. We present to you a case of psoriasis who developed thromboembolism in right lower leg.

Keywords: chronic, systemic inflammation; risk of venous thromboembolism

Introduction

Moderate to severe psoriasis is associated with a higher incidence of cardiovascular risk factors such as diabetes mellitus, obesity, smoking, and the metabolic syndrome [1,2]. Psoriasis patients with longstanding skin lesions suffer increased morbidity and mortality [2]. There has been an active inquiry that whether psoriasis has been associated with an increased venous thromboembolic risk [3].

Case Presentation

An 80 year old male with past medical history of psoriasis vulgaris, deep vein thrombosis and anxiety presented to emergency department with two days history of swelling and pain in both lower extremities. These complaints started suddenly. The pain was burning in nature, localized to lower legs with no radiation. Movement aggravated the pain and rest relieved it. The pain was more prominent in the right lower leg. Patient tried over the counter analgesics which did not help. This pain was accompanied by swelling and warmth. There was no recent history of trauma, travel, immobilization or fever. He had no family history of thromboembolism. He weighed 65 kilograms and had an active lifestyle. Review of system was positive for anxiety and constipation. And it was negative for dizziness, shortness of breath, chest pain and palpitations. Past medical history is significant for psoriasis vulgaris for 10 years which is being treated with topical clobetasol and an episode of deep vein thrombosis that occurred 1 year back and was treated with warfarin for 6 months. In the social history, patient is a retired gardener and is married with 4 children. He is a nonsmoker and nonalcoholic. His current medications include Alprazolam, lactulose and Naproxen. On examination, patient was vitally stable. There was visible plaque psoriasis involving elbows, lower back and knees. Both lower extremities were exquisitely tender to touch, there was visible swelling and they were warm. Flexion and extension of foot was limited due to pain. Homan's sign was positive on the right side. Pulses were palpable bilaterally in lower extremities. Cardiovascular and Respiratory exam was unremarkable. On abdominal exam there was no hepatosplenomegaly or tenderness and bowel sounds were present. Suspicion of deep vein thrombosis was high so patient was admitted and after appropriate investigations was started on anticoagulation with heparin. Since it was his second episode of unprovoked deep vein thrombosis, thrombophilia panel was ordered which came back negative. Patient was subsequently shifted onto oral Warfarin and he improved.

Discussion

A diagnosis of psoriasis was associated with a 40% increased risk of incident thromboembolism. These results corroborate with this case report which has suggested that psoriasis is associated with increased thromboembolic risk. Autoimmune disorders leads to chronic inflammation that promote the coagulation cascade impair the anticoagulation pathway and inhibit the fibrinolytic process [4-6]. The Danish manuscript has the strongest study design among the three manuscripts that were published in 2011 exploring the relation between psoriasis and VTE [3,7]. Individuals with moderate and severe psoriasis are also at elevated risk of atherosclerotic cardiovascular disease.

Conclusion

To conclude, the present case report suggests a relation between chronic, systemic inflammation and risk of venous thromboembolism, and suggests that patients with even mild to-moderate psoriasis may be at an elevated risk of a thromboembolic event. Until further evidence is available, all patients with moderate to severe psoriasis may be considered to be at a higher risk of venous thromboembolism and managed accordingly. Further research and interventions to adequately screen for and optimally manage venous thromboembolism are also warranted.

References

1. Gelfand JM, Troxel AB, Lewis JD, et al. The risk of mortality in patients with psoriasis: results from a population-based study. Arch Dermatol. 2007;143(12):1493-1499.
2. Gelfand JM, Neimann AL, Shin DB, Wang X, Margolis DJ, Troxel AB. Risk of myocardial infarction in patients with psoriasis. JAMA. 2006;296(14):1735-1741. doi:10.1001/jama.296.14.1735
3. Ramagopalan S, Wotton C, Handel A, Yeates D, Goldacre M. Risk of venous thromboembolism in people admitted to hospital with selected immune-mediated diseases: Record-linkage study. BMC Medicine. 2011;9:1. <https://doi.org/10.1186/1741-7015-9-1>
4. Xu J, Lupu F, Esmon CT. Inflammation, innate immunity and blood coagulation. Hamostaseologie. 2010;30(1):5-6.
5. Conway EM, Rosenberg RD. Tumor necrosis factor suppresses transcription of the thrombomodulin gene in endothelial cells. Mol Cell Biol. 1988;8(12):5588-5592. DOI: 10.1128/MCB.8.12.5588 <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0018125>.



- 6 Zhao YX, Chen G, Zhao RZ, Zhang XG. Psoriasis complicated with venous thromboembolism: report of two cases and a literature review. Chin Med J. 2011;124(10):1593-1596.[https://www.ajconline.org/article/S0002-9149\(08\)01870-5/abstract](https://www.ajconline.org/article/S0002-9149(08)01870-5/abstract)

7.

Nehal N.MehtaMD, MSCE, FAHA, [2011]. Yiding Yu BA. Attributable Risk Estimate of Severe Psoriasis on Major Cardiovascular Events. 124-8, 765-775.