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Deep Vein Thrombosis in Tuberculosis Patients: A Study of Two Cases

Dr. Swati Soni[1], Dr. Gurpreet Sharma[2], Dr. Sapna Kaushish[3], Dr. Ajay Sharma[4], Dr. Ravi Sharma[5], Dr. Rajesh Bhawani[6]

[1]Senior Resident, Department of Medicine, Shri Lal Bahadur Shastri Medical College and Hospital, Nerchawk, Distt. Mandi, H. P. Pin Code – 175008, PHN - 09418293692

[2]Junior Resident, Department of Medicine, Shri Lal Bahadur Shastri Medical College and Hospital, Nerchawk, Distt. Mandi, H. P. Pin Code – 175008, PHN - 09468230051

[3]Junior Resident, Shri Lal Bahadur Shastri Medical College and Hospital, Nerchawk, Distt. Mandi, H. P. Pin Code – 175008, PHN - 08708779230

[4]Assistant Professor, Department of Medicine, Shri Lal Bahadur Shastri Medical College and Hospital, Nerchawk, Distt. Mandi, H. P. Pin Code – 175008, PHN - 07018309377

[5]Associate Professor, Department of Medicine, Shri Lal Bahadur Shastri Medical College and Hospital, Nerchawk, Distt. Mandi, H. P. Pin Code – 175008, PHN - 09418900113

[6]Head of Department, Department of Medicine, Shri Lal Bahadur Shastri Medical College and Hospital, Nerchawk, Distt. Mandi, H. P. Pin Code – 175008, PHN - 09418084514

Abstract: ***Deep vein thrombosis DVT has been observed in 1.5 - 3.4 % of tuberculosis TB cases. Identifying TB patients at high risk of venous thromboembolism VTE is crucial. The presented study highlights two cases of DVT complicating TB, emphasizing the importance of early diagnosis and management using antitubercular drugs and anticoagulants. The mechanism behind DVT development in TB remains unclear, but factors like increased plasma fibrinogen, factor VIII, and reactive thrombocytosis may contribute. Additionally, the association between rifampicin - containing regimens and DVT risk is examined, and the efficacy and safety of NOAC agents in thromboembolism prevention and treatment are discussed.***

Keywords: Deep Vein Thrombosis, Tuberculosis, Venous Thromboembolism, Antitubercular Drugs, Anticoagulation

1. Introduction

Case 1

87 year old male was admitted with history of constitutional symptoms and fever for 2 months. He has history of weight loss and loss of appetite. There was history of fever documented maximum up to 102°F. On examination, he was thin build, with BMI of 17kg/m². On Chest examination there were decreased breath sounds in infraclavicular area on right side chest. Pleural tap was done and it was exudative effusion with lymphocytic predominance with ADA elevated. He was started on ATT under DOTS and discharged.

After 1month, patient complain of swelling in right lower limb associated with pain. USG Doppler of lower limb revealed right saphenous vein and right popliteal vein thrombosis. He was started on low molecular weight heparin. And further shifted on Rivoroxaban. Compression stocking were also prescribed. Patient improved after treatment and ATT was continued.

Case 2

65 year old male was admitted under orthopedic ward with history of swelling of right ankle. He also had history of on and off fever for 1 month. There was no history of other joint involvement. Investigations showed normal blood picture with ESR of 45mm. Synovial biopsy was taken from ankle joint and sent for histopathology examination which showed s/o ankle tubercular synovitis. He was started on ATT and NSAIDS. Swelling subsided in 1 week.

After 1 month, he again had swelling and pain in same limb, but this time swelling was extending upto mid - thigh. He was readmitted in medicine ward for evaluation. Vitals were stable. USG doppler of lower limb was done which showed right saphenous vein and distal branches thrombosis. He was started on low molecular weight heparin and shifted to tab Rivoroxaban. Compression stockings were advised. Patient improved after treatment and ATT was continued.

2. Discussion

Our 2 cases showed that VTE may complicate tuberculosis and such events can occur anytime during the disease. A possibility of DVT was kept in both cases as they presented with unilateral limb swelling and pain. Both of them responded well to the treatment with antitubercular drugs and anticoagulants. The emphasis should be laid on high index of suspicion, early diagnosis, and management of DVT in such patients. (1)

The mechanism responsible for development of DVT in TB is unclear. All the three parts of Virchow's triad may play a

role in pathogenesis of the disease. Increase in plasma fibrinogen and factor VIII and reactive thrombocytosis might be reasons of hypercoagulability in TB patients. Other factor responsible for occurrence of DVT in patients on treatment has been studied. Rifampicin has also been associated with DVT, with a relative risk of 4.74 in patients treated with rifampicin - containing regimens. (2) NOAC agents have been shown to possess similar efficacy and safety to warfarin in thromboembolism prevention and treatment. Moreover, Rifampicin acts as a non - specific inducer of hepatic cytochrome P450 and thereby affects the metabolism of multiple drugs. (3)

References

[1] Gupta A, Mrigpuri P, Faye A, Bandyopadhyay D, Singla R. Pulmonary tuberculosis - An emerging risk factor for venous thromboembolism: A case series and review of literature. Lung India.2017; 34 (1): 65–9.
[2] Behera SK, Ali SS, Kummari A, Ahamad SK, Shreya A. A Case Report on Pulmonary Tuberculosis Associated with Deep Vein Thrombosis. J Drug Deliv Ther.2023; 13 (2): P1–3.
[3] Ha H, Kim KH, Park JH, Lee JK, Heo EY, Kim JS, et al. Thromboembolism in mycobacterium tuberculosis infection: Analysis and literature review. Infect Chemother.2019; 51 (2): 142–9.

Author Profile

Dr. Swati Soni, Senior Resident, Department of Medicine, Shri Lal Bahadur Shastri Medical College and Hospital, Nerchawk, Distt. Mandi, H. P. Pin Code – 175008, PHN - 09418293692

Dr. Gurpreet Sharma, Junior Resident, Department of Medicine, Shri Lal Bahadur Shastri Medical College and Hospital, Nerchawk, Distt. Mandi, H. P. Pin Code – 175008, PHN - 09468230051

Dr. Sapna Kaushish, Junior Resident, Shri Lal Bahadur Shastri Medical College and Hospital, Nerchawk, Distt. Mandi, H. P. Pin Code – 175008, PHN - 08708779230

Dr. Ajay Sharma, Assistant Professor, Department of Medicine, Shri Lal Bahadur Shastri Medical College and Hospital, Nerchawk, Distt. Mandi, H. P. Pin Code – 175008, PHN - 07018309377

Dr. Ravi Sharma, Associate Professor, Department of Medicine, Shri Lal Bahadur Shastri Medical College and Hospital, Nerchawk, Distt. Mandi, H. P. Pin Code – 175008, PHN - 09418900113

Prof. Rajesh Bhawani, Head of Department, Department of Medicine, Shri Lal Bahadur Shastri Medical College and Hospital, Nerchawk, Distt. Mandi, H. P. Pin Code – 175008, PHN - 09418084514