BioCore Exploring Scientific Community

International Journal of Cardiology and Heart Health

ISSN 2575-8160

Short Communication Open Access

Warfarin induced Skin Necrosis – Forgotten Diagnosis

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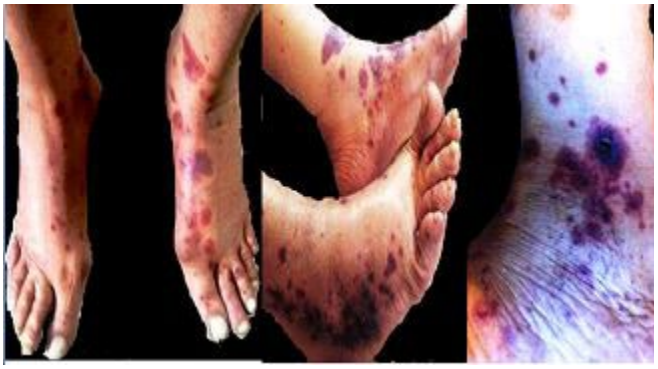
Citation: Sachin Sondhi et al. (2017), Warfarin induced Skin Necrosis – Forgotten Diagnosis. Int J Car & Hear Heal. 1:1, 2. DOI: 10.25141/2575-8160-2017-1.0002

Received: August 16, 2017; **Accepted:** August 21, 2017; **Published:** August 22, 2017

Introduction:

78 year old male presented to us with syncope and was found to have sick sinus syndrome in form of tachy-brady syndrome with intermittent atrial fibrillation. After pacemaker implantation, he was discharged on 3mg of warfarin for prevention of stroke. At time of discharge his baseline INR was 1.12. After 3 days of discharge, he developed painful ecchymosis over both lower limbs which progressed to hemorrhagic bullae and finally to eschar formation with central necrosis seen within 5 days (Figure 1). The INR at that time was 1.03. The diagnosis of Warfarin induced skin necrosis (WISN) was made. His warfarin was stopped for 4 days. After starting local wound care, lesions started improving. For stroke prevention, finally he was started on dabigatran 110mg twice a day.

Figure 1. WISN (a) 1st stage of burning painful ecchymotic areas over bilateral lower limb (b) 2nd stage showing hemorrhagic bullae (c) 3rd showing characteristic central necrosis



Skin necrosis occurs in 0.01% to 0.1% of patients receiving warfarin.1 Skin reactions associated with warfarin commonly occur 3 to 5 days after initiating treatment and are more common in protein C and protein S deficient patients. Warfarin inactivates vitamin K-dependent "clotting factors II, VII, IX, and X" and "natural anticoagulants, Proteins C and Protein S". The Protein C and Protein S are inactivated immediately after starting warfarin because of short half life. This may cause a paradoxical hypercoagulable milieu in which microthrombi develop in cutaneous and subcutaneous microvasculature.1-3. This led to skin necrosis mostly over fatty areas. Treatment involves discontinuation of warfarin and reversal with vitamin K if needed. An alternative anticoagulant, such as heparin or LMWH, should be given to patients with thrombosis. Protein C concentrates may accelerate healing of skin lesion in protein C deficient patient; FFP may be value for those with protein S deficiency. Warfarin should be restarted at low doses with overlapping with parenteral anticoagulant and should be continued until the INR is in therapeutic range for at least 2 to 3 consecutive days.

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