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"Unveiling the Enigma: A Rare Case of Low Molecular Weight Heparin-Induced Skin Discoloration"

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ABSTRACT

Skin discoloration, also known as skin decolorization, is an uncommon side effect that can occur after low molecular weight heparin (LMWH) is administered. We describe the case of a 33-year-old woman who complained of searing pains in both feet, feverish spells, and other symptoms when she visited the emergency room. She did, however, experience increased symptoms after receiving LMWH, such as abrasions and skin discolouration on her upper and lower limbs. This case emphasizes how crucial it is to take unusual drug reactions into account when treating patients who exhibit dermatological symptoms.

Keywords: Skin discoloration, LMWH, Uncommon drug reactions.

INTRODUCTION

Compared to unfractionated heparin (UFH), low-molecular-weight heparins (LMWH) have a number of benefits and are becoming more and more essential in the prevention and treatment of thromboembolic illnesses. Among these include a more consistent pharmacokinetic profile, which results in increased antithrombotic efficacy at a decreased risk of bleeding, as well as a decreased risk of osteoporosis and heparin-induced thrombocytopenia with prolonged therapy[1].Skin darkening is an extremely uncommon side effect of UFH treatment, while it has also been noted in a tiny percentage of instances following LMWH treatment[2-4]. We describe a patient whose LMWH caused skin darkening that was exacerbated by heparin. We examine the clinical and laboratory characteristics of UFH- and LMWH-induced skin discolouration based on the documented cases of heparin-induced skin necrosis[5,6].

CASE PRESENTATION

A 33-year-old lady was taken to the emergency room with the primary complaint of discomfort that had been present for the previous three days in the bilateral foot area. It was introduced unexpectedly at the start. Although it is not radiating, both feet are burning. There are ongoing, undocumented episodes of fever that are linked to generalized bodily weakness. She had taken a number of drugs for which there had been a negative reaction 20 to 25 days earlier. She has also had jaundice for five years. She did not show pallor, icterus, clubbing, or lymphadenopathy upon inspection at the time of admission, butpresent. Following an investigation, a daily dosage of 650 mg of paracetamol and 100 mg of gabapentin was given.

After a few days, the area around her hand and foot began to pain, and spate grew there. As a result, low molecular weight heparin was recommended, and it was given daily until the symptoms subsided. However, following use, a worsening situation emerged, including the emergence of abrasion and the beginning of skin decolorization on the patient's lower and upper limbs. As long as the drug is taken as prescribed, skin decolorization-like symptoms will start to develop in the affected location and extend to the patient's peripheral regions. However, her skin still causes problems. Her colouring starts to fade more in the feet andhercolour progressively fades in the area that's around her hands and feet.

Even more, the area that has been damaged is starting to get sick. Pain in the afflicted location, which was localized and appeared as a lesion-like sign, worsened as the skin decolouration.

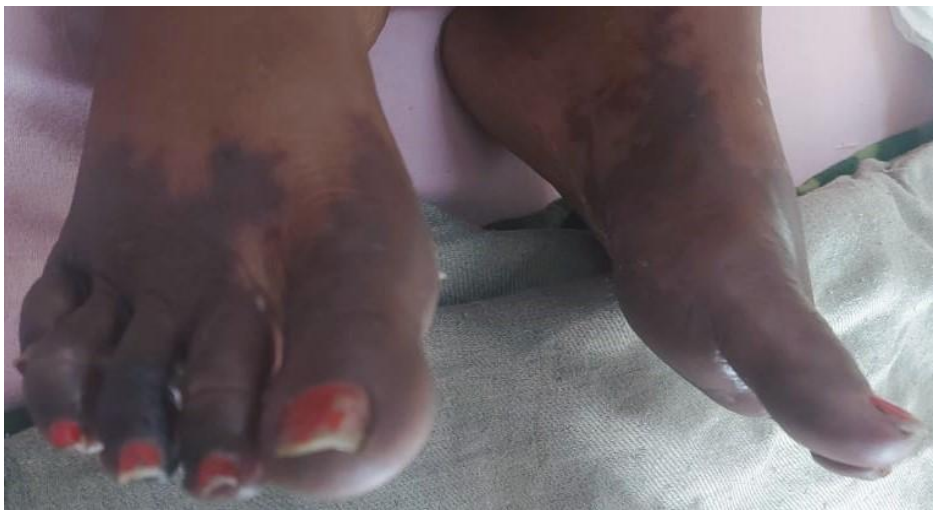

Figure 1- skin discoloration in both feet

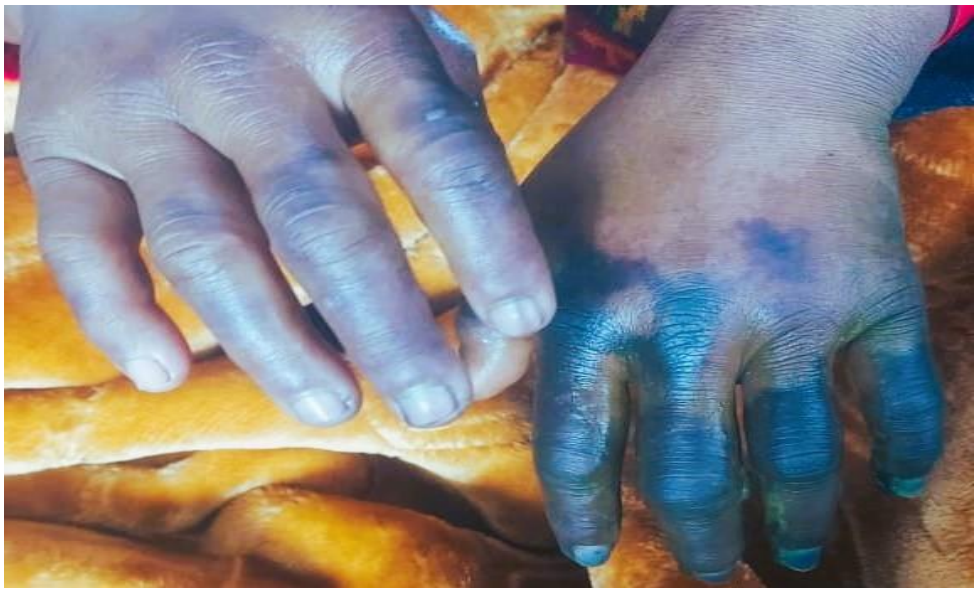

Figure 2- skin discoloration in left hand

Lab investigation

The patient's basic lab results from any consecutive days that they were admitted to the hospital are shown in Table 1 for the patient. When admitted standard range.

Table 1- Laboratory data

Parameter	On admission	Normal range
Haemoglobin (gm\dl)	9.6	12-16
Total leukocyte count (cell per mm^3)	8750	4,000-11,000
Lymphocytes (%)	16	20-30
Total RBC count	2.92	4.5-5.1
Platelet count (lakh\cum)	2.29	1.5-4.5
PVC (%)	27.2	36-48
Serum creatinine (mg]dl)	0.74	0.50-1.20

The patient's haemoglobin, lymphocyte, and platelet counts were below normal at admission. The individual possesses lower platelets with normal protein c and protein s findings from the coagulation screen. Which showed minimal thrombocytopenic symptomatology in the patient. In the days that followed, platelet and haemoglobin levels changed most substantially; this might have been due to the medication she was receiving or her health worsening after being taken to the hospital.

DISCUSSION

Low-molecule weight Heparin is a preferred choice for the efficient prophylaxis and treatment of thromboembolism and skin disorders connected to blood because of its high safety profile and ease of use. With subcutaneous or dermal heparin treatment, cases of heparin-induced blisters with skin decolorization have been described more frequently[7].

The patient in the after-mentioned circumstance is feeling discomfort in her proximal area. When heparin is used with other medications like tramadol, paracetamol, or pantoprazole to treat discomfort in her both feet and hand region with radiating pain and minor lesion - symptoms, the illness worsens rather than gets better. There is a mild skin decolorization condition that later gets worse. All suspicions and alleged substances have been extensively analysed with the help of Micromedex and Lexicomp.

One particular medication that is low molecular weightheparin may be the cause of the patient skin decolorization condition in the hand and feet. in the contemporary medical world, this kind of reaction to heparin is very less. The following proposed mechanism for heparin-induced skin decolorization is taken into account. hypoxia condition arises due to intravascular thrombosis due to heparin-induced immune platelet aggregation, an Arthurs-type reaction brought on by the formation of antigen-antibody complexes in cutaneous blood vesicles (type 3 hypersensitivity syndrome), or improper use of heparin.Bleeding,osteoporosis,hair loss, and immune and nonimmuneheparin-induced skin decolorization are well-known side effects of heparin therapy. Despite an increase in the report, it is unknown how often heparin-induced skin decolorization occurs.Heparin-induced skin decolorization can be brought on by at least five different processes,including delayed-type [type 4 and 3] hypersensitivity reactions immune-mediated skin decolorization,type 1 allergic reactions skin necrosis, pustulosis, and immune-mediated skin decolorization[8]. Lastly, because fat tissue may have adequate blood flow,the heparin may affect the platelet or harm the platelet.

Data on the frequency of heparin-induced skin decolorization or their cause are not readily available.We intended to ascertain the incidence of heparin-induced skin decolorization given the increase in reports of these conditions and the significance ofthe accurate diagnosis of this illness[8].

CONCLUSION

Extremely light molecules it is uncommon, and a number of potential route mechanisms could be at play, for heparin to cause skin discoloration after LMWH therapy. Early diagnosis is essential, though, as continuous heparin therapy can lead to life-threatening problems in various organs and body parts. Therefore, before administering, we check the patient for heparin allergies. If the patient is susceptible, we administer an alternative to heparin because if it is administered to a patient who is purported to be a fake, hypersensitivity types [3 and 4] are seen, which can be fatal to the patient or person.

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