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Heparin-Induced -Priapism Progressing to Penile Glans Gangrene. Case Report

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Abstract:

Low-molecular-weight heparin (LMWH) therapy has recently been proposed as a cause of ischemic Priapism. The evidence, however, remains rare, as there are few published cases.

As LMWH therapies continue to gain favour, we will potentially see more cases of LMWH-induced priapism. As such consideration should be given to determine the incidence of LMWH-induced priapism and the pathophysiology.

Keywords*: Priapism, Heparin, Penile gangrene, Heparin induced priapism, Antiplatelet antibody, Warfarin.*

Introduction

Priapism is a rare condition defined as a prolonged unwanted penile erection for more than four hours (1). The classification of priapism is conventionally divided into three main groups: 1.non-ischemic (high flow) 2. ischemic (low flow) 3. stuttering (recurrent).

The pathophysiology of blood thinners induced priapism still not yet clear, however, low molecular weight heparin (LMWH)-induced antiplatelet-antibodies may lead to the aggregation of thrombocytes and thus alter the penile blood flow leading to ischemic priapism (3). Strict monitoring is required to prevent and avert unusual complications such as bleeding and rarely priapism. Herein we report an unusual complication of blood thinners progressed to priapism and penile glans dry gangrene.

Case Report

A 62-year-old male patient admitted to the medical ward as a case of Deep veinous thrombosis of left lower limb. On the fifth day of admission patient started to complain of painful penile erection for several hours so urological consultation was requested.

On examination, the patient was conscious, oriented with stable vital signs: oxygen saturation on room air:98% blood pressure:135\85mmhg, puls:85bpm. Painful left foot swelling with redness, non-tender abdomen, soft and lax, no organomegaly and no lymph node enlargement. External genitalia examination revealed rigid, tender corpus cavernosa with sparing of the glans and corpus spongiosum.

The patient medical history included type 2 Diabetes mellitus, hypertension (HTN), old cerebrovascular accident (CVA) with no residual weakness.

The patient medication included amlodipine 5mg, mixtard insulin, tinzaparin therapeutic dose, warfarin 5mg.

Laboratory finding: leukocytes:9.700 per microliter, Hemoglobin:13.1 g/dl, INR:7.0 (0.89-1.1), Platelet: 120000 per microliter and platelet on admission: 300000 per microliter.

Antiphospholipid antibody and thrombophilia screen done by medical team on admission and showed negative result.

Corpus cavernosum blood sampling showed Po2:26mmhg, Pco2:68, Ph:7.2

Penile duplex was performed and showed no blood flow in both cavernosal arteries.

Therapeutic Intervention

Warfarin was withheld, and vitamin K 10mg intravenous was administrated with four units of fresh frozen plasma to correct his elevated INR.

Penile aspiration\irrigation was started initially after INR correction, but the response was partial; then again, the priapism recurs (1).

Phenylephrine was precluded by internal medicine because of high risk of developing cardiovascular event.

Anaesthesia consultation was done for surgical approval and distal percutaneous penile shunt was performed.

Two days later on follow up a skin necrosis and a dark discoloration of the glans penis with a clear line of demarcation was observed at the level of corona denoting a dry penile gangrene, so Doppler ultrasound again requested and showed no vascularization of distal penis.

After counselling the patient regarding partial penectomy including the risk of surgery, he decided conservative treatment which included suprapubic catheter, broad spectrum antibiotic and daily dressing with application of nitro glycerine ointment.

On follow up no improvement was observed and 2 weeks later autoamputation of the glans penis happened without any sign of superimposed infection.

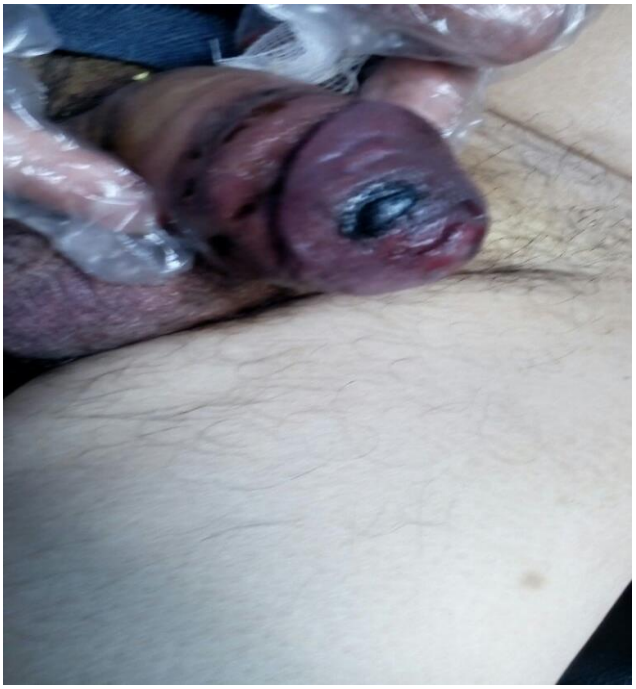

Figure 1

Discussion

Priapism is unwanted erection lasting for more than four hours. Ischemic Priapism account for more than 95% of all Priapism episodes (1) (5). Laboratory testing is used to support clinical findings. Ischaemic priapism is an emergency condition. Intervention should start within 4-6hours, including decompression of the corpora cavernosa by aspiration and intracavernous injection of sympathomimetic drugs (e.g., phenylephrine). Surgical treatment is recommended for failed conservative management, although the best procedure is unclear. Immediate implantation of a prosthesis should be considered for long-lasting priapism (1).

Drug induced priapism a common cause of ischemic priapism. However, blood thinners induced priapism stell uncommon (8).

The pathophysiology of blood thinners induced priapism still not yet clear. however, anticoagulants such as low molecular- weight- heparin, warfarin(coumadin) are proven to cause ischemic priapism, but it is considered a very rare side effect.

One of the most acceptable pathophysiological theories is heparin-induced thrombocytopenia, caused by antiplatelet antibodies which leads to platelet aggregation (2).

In our case the decrease of platelet counts more than 50% (2), the development of priapism, skin necrosis and dry gangrene of the penis after the treatment of deep venous thrombosis with low-molecular-weight heparin support this theory (2) (9).

Conclusion

We presented a rare case of heparin-induced priapism which occurred after initiation of heparin treatment for deep venous thrombosis. The only one widely accepted pathological mechanism includes heparin induced anti-platelet antibodies which lead to thrombocytes aggregation and thus alter the penile blood flow.

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