AN UNUSUAL CAUSE OF PRIAPISM

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SUMMARY

A 30-year old man was admitted into Korle-Bu Teaching Hospital (KBTH) with a 6-day history of priapism.

The initial treatment of his priapism was surgical decongestion of his penis. Hematological investigations showed that he had Chronic Granulocytic Leukaemia (CGL) with a very high white cell count. This was felt to be the most likely cause of his priapism.

In addition to surgical decongestion of his penis he received chemotherapy to lower his white cell count. He developed two of the recognised complications of leukaemia, wound infection and bleeding and therefore had a difficult and prolonged post-operative period of 2 months in hospital.

INTRODUCTION

Priapism is the persistence of erection that does not result from sexual desire. It is often accompanied by pain and tenderness and fails to subside despite orgasm[1].

When the records of the Genitourinary Ward of KBTH between 1/12/94 and 31/12/94 were examined a total of 403 patients were admitted into that ward with urological disorders, 16 (3.3%) had priapism and 4 (25%) of these patients were found to have Haemoglobinopathy HbSC or SS.

The incidence of priapism in leukaemic patients is less than one per cent (1%)[2]. Chronic granulocytic leukaemia is the type most often associated with this disorder[3]. The purpose of this paper is to report a case of priapism due to this cause.

Case Report

A 30-year old man was admitted into KBTH under the care of the urologist on November 5, 1995, complaining of a sustained, painful penile erection of 6-days duration. Several weeks before admission into KBTH he had been troubled by recurrent episodes of painful early morning penile erections unassociated with sexual activity, each episode lasting approximately one hour and settling down spontaneously.

On examination he was in obvious distress from pain, there was redness of his left eye, with markedly impaired visual acuity. The spleen was palpable 10 cm below the left costal margin, the penis was erect and tense.

Hemoglobin was 8.2g%, WBC — 390 x 10^9/L, with 56% segmented cells, 32% neutrophil myelocytes, 8% promyelocytes, 3% eosinophil myelocytes and 1% basophils, sickling positive, electrophoresis Haemoglobin AS.

Initial management involved rehydration with intravenous fluids, analgesia with pethidine, aspiration of blood from his penis in conjunction with injection of ephedrine into the penis with the aim of carrying out decongestion of the erected penis.

He underwent a glandulo-cavernosal shunt the next

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day. The hematologists became involved in the management of this patient at this stage, a diagnosis of chronic granulocytic leukaemia having been made from the results of the FBC and blood film. Cytotoxic therapy was started initially with hydroxyurea and then with busulphan, with the aim of promptly reducing the high WBC, and thereby treating the priapism.

The ophthalmologists thought that his visual impairment was due to leukaemic infiltration of his retinal blood vessels.

He had a rather difficult post operative period. Despite the glandulo-cavernosal shunt the priapism persisted, initially his high WBC responded only slowly to chemotherapy, and he was troubled by infection of the operation site. He developed a scrotal abscess and myositis which required surgical drainage and treatment with antibiotics.

He also had impaired hemostasis and severe bleeding, episodes requiring transfusion with several units of blood and fresh frozen plasma. But gradually his white count fell, the priapism settled down, his infected thigh and scrotum healed.

He was finally discharged from hospital nearly two months after he had first been admitted into hospital. At the time of discharge, he had a hemoglobin - 8.1g%, WBC - 12 x 10^9/L.

He remains on maintenance therapy with busulphan and is reviewed in the hematology outpatient clinic on a regular basis.

His WBC is maintained at 10-20 x 10^9/L with Busulphan, there have been no further episodes of priapism. He has not regained erectile function.

DISCUSSION

Priapism due to chronic granulocytic leukaemia as illustrated by this case has never been recorded as reason for admission into the urology department at Korle-Bu Teaching Hospital and indeed this was the only such documented case seen during the period of this study. The priapism here was attributed to the very high white cell count. In the literature however various pathophysiologic mechanisms of leukaemic priapism have been proposed all of which are possibilities in this case namely: 1) splenomegaly resulting in mechanical obstruction of the abdominal veins including those draining the penis, 2) sludge of leukaemic cells in the corpora cavernosa and dorsal vein of the penis[4], 3) leukaemic infiltration adjacent to the sacral nerves[5].

This case clearly illustrates that measures designed to reduce the high leukocyte count seem better able to control priapism in chronic granulocytic leukaemia than surgical maneuvers. This patient was first treated with surgery which not only failed but engendered two serious complications, i.e. haemorrhage and infection. A good measure of success was then achieved with the cytotoxic drugs leading to reduction of the white cell count.

Methods of treatment advocated in the literature include 1) saphero-cavernous bypass operations, 2) leukapheresis followed by cytotoxic drugs at high dosage, 3) leukapheresis alone and 4) intensive chemotherapy.

The complication of surgical intervention stemming from the high predisposition of leukaemic patients to infections and their bleeding tendery were clearly illustrated by this case. The lesson of this presentation is that when priapism due to chronic granulocytic leukaemia is firmly diagnosed, the initial treatment must be with chemotherapy; surgery must be relegated to a last resort in view of its attendant high risk of infections and haemorrhage.

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