Abstract:
Abstract - Priapism is a prolonged, painful, and persistent erection unassociated with sexual arousal. Although the injection of intracavernosal vasoactive substances is the most common cause of priapism, nearly 20 of all cases relate to a hematologic disorder. Such hematologic conditions include sickle cell anemia, chronic myelogenous leukemia, chronic lymphocytic leukemia, and acute lymphoblastic leukemia. In adult leukemic patients, the incidence of priapism is estimated to be approximately 5.2. This article discusses the case of a 38-year-old patient who presents with priapism and is found to have chronic myelogenous leukemia.

Keyword : Key Words- Priapism, Chronic Myeloid Leukemia.

Case report: A 38 year old male, a daily worker from CUMBUM was admitted on 1-4-2010 with complaints of painful erection of penis— for 3 days. H/o presenting illness: Patient gives history of abdominal pain over left hypochondrium for last two months, which was dragging in nature and had no aggravating or relieving factors without any radiation of pain. History of blurring of vision left eye for one month and history of pain during micturition for the past 3 days with painful erection which was sudden in onset. No h/o fever, no h/o chest pain, no h/o rashes, no h/o bleeding tendencies. No h/o DM, HT, PTB, no h/o similar illness in the past, no h/o exposure to radiation. Patient takes mixed diet. He is a chronic smoker and alcoholic. He is married and has three children.

Drug history: No h/o any drug intake
No h/o malignancy in the family

Physical examination:
Patient was conscious, oriented and afebrile, was Moderately built and nourished. Pallor was present. No cyanosis, no clubbing, no jaundice, no pedal edema, no generalized lymphadenopathy, no rashes. PR- 86/minute, normal volume, no special character, palpable in all peripheral vessels BP-110/80 mm of Hg RR-14/minute Fundus: disc margins blurred, engorged veins+. Oral cavity-normal P/A : abdomen distended, spleen is enlarged-8 cm below the left costal margin, no splenic bruit Liver is enlarged 2 cm below the right costal margin, No free fluid. Cvs: S1,S2 normal,

Uric acid-13.3 mg%

Routine Urine Examination-Normal

Total Count-1.86 Lakhs RBC-2.8millions/mm3 Hb-8gm PLC-2.65 lakhs PCV-28% ESR-15 mm/HR Peripheral smear: RBC-normochromic,normocytic with occ.nucleated RBCs WBC-count markedly increased,granulocytic series seen in different stages of maturation DC-Blast-1%,Promyelocyte-2%,Myelocyte-9%,Stab forms-25%,Neutrophil-36%,Eosinophil-1%,Basophil-3% PLC-normal with normal morphology IMPRESSION:CHRONIC PHASE OF CML Bone marrow aspiration: Proliferation of myeloid series seen with cells of distribution same as that of peripheral blood,4% of myeloblast. Erythroid and megakaryocytic series seen normally

DC-Blast-4%, Myelocyte & Metamyelocyte-40%, Basophil-1%, Eosinophil-5%, Polymorphs-50%

IMP: CHRONIC PHASE OF CML Usg abdomen and penis: Liver 16 cm with mild increased echoes, no evidence of IHBR dilatation, Spleen: measures 17 cm with normal echoes enlarged Kidney: RK-10.3*3.2 cm, LK-10.2*3.1 cm, cortical echoes normal, CMD maintained IMP:SPLENOMEGALY, GRADE 1 FATTY LIVER Both corpus cavernosa engorged, measures 2*1.7 cm, flow couldn’t be picked up with colour doppler. A diagnosis of chronic phase of chronic myeloid leukemia was made and he was treated for his priapism, initially about 2ml of cavernosal blood aspirated under aseptic precaution. UROLOGIST opinion: intra cavernosal aspiration-done, normal saline wash was given. Priapism did not subside so an oncologist opinion was obtained. oncologist suggested CAP HYDROXY UREA 500 mg BD, Radiation oncologist opinion for radiation to penis. Case discussed with radiation oncologist emergency RT to penis-150cGY for 3 days, to strap penis to ant.abdominal wall& give RT. 4 cycles of RT was given to penis.
After rt pt symptomatically better. Penis-flacid, mild discharge+, relieved of pain. On **cap hydroxy urea**, T.ciprofloxacin, T.metronidazole

**Discussion:**
CML accounts for 15–20% of adult leukae-mias. Most common presenting feature of CML is raised white cell count i.e. hyperleukocytosis. This disorder refers to a WBC count 100 x10^9/l or more. Hyperleukocytosis is convincingly considered to be the cause of priapism in patients with leukemia. Different mechanisms are thought to be operative: Most commonly agreed process is the aggregation of leukemic cells in the corpora cavernosa and the dorsal veins of penis or venous congestion of the corpora cavernosa resulting from mechanical pressure on the abdominal veins by the splenomegaly. Alternately hypothesis is of infiltration of the sacral nerves with leukaemic cells or infiltration of the central nerve system. Priapism is a pathological condition characterized by penile erection that persists for longer than six hours and is unrelated to sexual stimulation. This condition is exclusive to men and typically involves the paired corpora cavernosa. Approximately 20% of priapism cases are related to haematological disorders, and the incidence of priapism in adult patients with leukemia is about 1%–5%. Priapism is traditionally defined as either low-flow (ischaemic) or high-flow (non-ischaemic). Low-flow or ischaemic priapism results from pathologically decreased penile venous out-flow that results in intracavernosal stasis. It manifests mostly in a painful, rigid erection. This type is more common and represents an actual emergency because of irreversible cellular damage and fibrosis that occur if treatment is not administered within 24 to 48 hours. The causes of low-flow priapism include idiopathic, haematological disorders, tumour infiltrate or drug induced. High-flow or arterial priapism differs in that it results from increased arterial inflow into the cavernosal sinusoids, which overwhelms venous outflow and clinical presentation is painless. In contrast to low-flow priapism, intracavernosal blood sampling from patients with high-flow priapism reveals bright red oxygenated blood and thus irreversible cellular damage and fibrosis are rare. This type of priapism is usually due to penis or perineum trauma that results in injury to the internal pudendal artery. This establishes a fistula between the cavernosal artery and the corpus cavernosum so that unregulated inflow occurs. It is not an actual emergency in patients with high-flow priapism, and treatment can be on an elective basis. About the management of priapism, there have been many methods described in the literature. Spinal anaesthesia, ice water enema, ice packs, radiotherapy, fibrinolytic agents and anticoagulants have been tried but no significant success rate after released obtained. The painful erection of the patient, immediate aspiration and irrigation of the corpora cavernosa as well as injection of F-adrenergic agents is recommended. It is well known that a higher number of leucocytes in
hyperleukocytic syndrome leads to the formation of leukocyte aggregates and thrombi which further result in occlusion of small vessels\textsuperscript{11}. Many studies have shown that a leukocyte count greater than 100.0 x10\textsuperscript{9}/L or more is a major contributor of an elevation of the whole-blood viscosity\textsuperscript{12}. In our cases, the leukocyte count on admission was 186 x10\textsuperscript{9}/L. Thus, it is assumed that leukocyte aggregates and/or thrombi formed may have resulted in leukocyte aggregates which initiated the sequences leading to priapism.

**SUMMARY:**

Based on this case and a brief review of the literature, early diagnosis of priapism should focus on distinction between high-flow and low-flow priapism. Subsequent treatment must be instituted quickly to optimize probability of long-term potency. Finally, the importance of the CBC to screen for the possibility of hematologic malignancy when the history and physical examination fail to elucidate an obvious cause of priapism.

**Reference:**


