

Introduction

A rare entity has always brought excitement in the medical field. Priapism, the estimated incident is only 0.73 cases per 100,000 person years¹. It is characterized by persistent penile erection that continues at least 4 hours and is not associated with sexual stimulation⁵. The commonest cause of priapism is hematological disorders which accounts for about 20% of the cases and chronic myeloid leukemia (CML) accounts for 50% of all leukemic priapism². However, as a presenting feature of CML, priapism is rare and occurring only in 1-2%⁴. We would like to share a case of a young patient who presented to us with priapism as the first manifestation of CML.

Case report

A 27-years-old gentleman, with no known medical illness presented with 24 hours of painful penile erection. It was not associated with trauma, sexual intercourse, use of illicit drugs or medication. Further history revealed he had significant weight loss, night sweats and lethargic for the past 3 months. He denies any bleeding tendency, fever or bone pain. His brother passed away at a young age from leukemia.

He was pale but not jaundiced and his vital signs were within normal limits. Abdominal examination revealed hepatosplenomegaly and palpable bilateral inguinal nodes. Perineum examination showed engorged, tender and erected penis.

Blood investigations showed white blood cells $756 \times 10^3/\mu\text{L}$, with hemoglobin of 7 g/dL and platelet of $142 \times 10^3/\mu\text{L}$. Cavernous blood gas showed lactate level of 20 mmol/L, pO₂ 21 mmHg, pCO₂ 100mmHg and pH 7.10 (*Table 1*). Urgent peripheral blood film (PBF) was requested for this patient which was suggestive of chronic myeloid leukemia in chronic phase with blast cells 7%. Patient was given hydration and started on tablet hydroxyurea. Therapeutic aspiration from the corpus cavernosum was done and the priapism resolved. However, the priapism recurred hence he was referred to Urology Department and eventually shunting procedure was performed for the patient.

Discussion

The term "priapism" is derived from Priapus, the Greek god of fertility and lust who is depicted with a massive phallus. It is a rare presentation in the Emergency Department (ED) but it is a urology emergency which requires immediate evaluation and may require urgent intervention as it poses risk of permanent erectile dysfunction³. On evaluating a patient with priapism, one must determine whether the priapism is ischemic or non-ischemic to initiate the appropriate management.

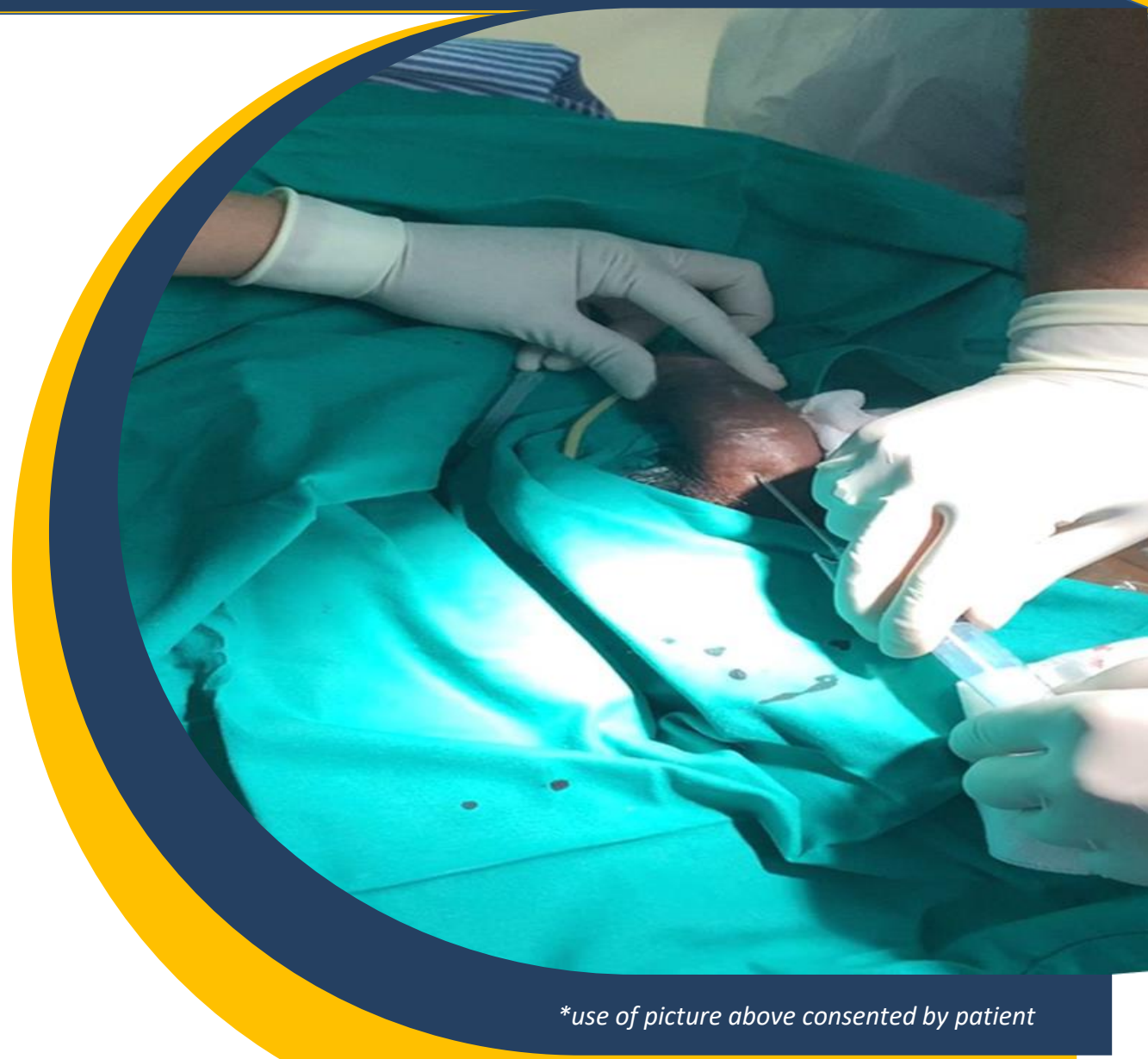
Ischemic priapism is a compartment syndrome requiring immediate intervention. It is a more common form of priapism compared to the non-ischemic type. Ischemic priapism affects people with hematological disorders while non-ischemic priapism is commonly related to penile trauma or instrumentation. History taking and physical examination may help to distinguish the types of priapism, but additional investigations are needed to confirm the diagnosis.

Conclusion

Priapism is self-evident. Prompt evaluation in differentiating whether it is ischemic or non-ischemic is vital as positive outcome closely related to duration of tumescence. It has been known that priapism persisting for more than 24 hours poses risk as high as 90% of permanent erectile dysfunction³.

References

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*use of picture above consented by patient

	Cavernosal Blood Gas (on room air)			Our patient
	Ischemic priapism	Non-ischemic priapism	Flaccid penis	
PO ₂ (mmHg)	<30	>90	40	21
PCO ₂ (mmHg)	>60	<40	50	100
pH	<7.25	7.40	7.35	7.10

Table 1: cavernous blood gas values for ischemic, non ischemic priapism and our patient

Declaration of conflict for all authors

The authors declare that there are no conflict of interests.

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Blood aspirated from the corpora cavernosum for blood gas analysis (cavernosal blood gas) is one of the diagnostic method. Blood gas in ischemic priapism typically shows PO₂<30mmHg, PCO₂>60 mmHg and pH <7.25. Whereas blood gas with non-ischemic priapism is similar to arterial blood gas. Cavernosal blood gas analysis of our patient is consistent with ischemic priapism (*Table 1*). There is clinical concern for hematological malignancy in our patient and thus PBF was performed, and it was suggestive of CML.

Ischemic priapism requires immediate intervention. The American Urological Association recommended a step-wise approach beginning with intracavernous aspiration with or without irrigation, injection of an alpha-adrenergic sympathomimetic followed by surgical shunt. The success rate with aspiration alone is approximately 30%. Systemic treatment of the underlying disorder is administered concurrently. In our patient, his ischemic priapism was attended immediately whilst evaluation and further management of the cause of his priapism was being addressed as well.