

Clinical Characteristics And Outcome Of Management Of Priapism At The Lagos State University Teaching Hospital

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Citation

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Abstract

Introduction Priapism though an infrequent condition, can be associated with the significant morbidity of erectile dysfunction. While it is an idiopathic occurrence in the majority of cases involving Caucasians, there have only few reviews in our environment with conflicting reports on its aetiology. We therefore aim to review our experience. **Materials and Method** We reviewed the records of all patients presenting to our hospital with priapism over a 5 year period from January 2006. **Results** The record of 46 (82.1%) out of 56 patients who presented with priapism over the period were available for review. The mean age was 25.4 years and mean duration of symptom was 74.4 hours. All the patients had ischaemic type of Priapism. The most common aetiological factor was haemoglobinopathy in 29 (63%) patients while the use of aphrodisiac occurred in 4 (8.7%) patients. There was no identified aetiology (idiopathic) in 10 (21.7%) patients. Three patients (6.5%) had spontaneous resolution. Thirty-six patients (78.3%) were treated with corporal aspiration only, out of which 14 patients (38.9%) needed a repeat aspiration for resolution to occur. Seven patients (15.2%) underwent surgical shunting procedures. The mean duration of hospital stay was 5.8 days. Only 34 patients were available for a follow up review a month after discharge. The identified complications in these patients were erectile dysfunction in 10 (29.4%) and wound sepsis in 5 (14.7%). There was a statistically significant correlation between late presentation and development of complication following treatment ($p=0.036$)

Conclusion Haemoglobinopathy is the most common aetiological factor for priapism amongst patients presenting to our institution. Use of aphrodisiacs is an uncommon cause. Late presentation still remains a problem amongst patients with priapism in our environment and it is a predictor of complications following treatment. We found corporal aspiration to be an effective treatment.

INTRODUCTION

Priapism is persistent penile erection in the absence of sexual stimulation. One of the earliest description of priapism in medical literature was by Trippe in 1845 (1) though early descriptions were also mentioned in pharaonic papyri (2). The two types of priapism described are low flow (or ischaemic) type and the high flow (or non-ischaemic) type. The ischaemic type of priapism is the commoner of the two types. Pathophysiologically, priapism occurs due to an abnormal distension of the corporal carvenosa with blood which is deoxygenated in the ischaemic type of priapism and oxygenated in the non-ischaemic type. The distension of the corpora carvenosa with deoxygenated blood leads to hypoxic injury to the carvenosal tissue hence patients with ischaemic priapism tend to experience a lot of pain with the persistent penile erection. This is unlike patients with the non-ischaemic priapism who still have adequate oxygenation of their carvenosal tissue and thus have a painless persistent penile erection. Most cases of the non-ischaemic priapism

follow some form of genitourinary trauma or the other. Most cases of the Ischaemic priapism are thought to be idiopathic amongst Caucasians. Other aetiological factors previously implicated for ischaemic priapism include haemoglobinopathy, pelvic tumours, pelvic infections, trauma and use of medications.

There are a few reports about priapism in our environment reporting different aetiological factors. One of such report by Aghaji et al in 2000 (3) cited the use of aphrodisiacs as the most common cause of priapism in adult Nigerians whereas another report three years later by Badmus et al found Haemoglobinopathy (HbSS) to be the most common aetiological factor in priapism in southwestern Nigeria (4). There has also been little mention of the duration of symptom before presentation in our environment. Moreso, the pattern of the aetiology of priapism has been known to change with time (5). There is therefore the need to study the current pattern of priapism amongst Nigerians which is the aim of this study.

MATERIALS AND METHODS

We retrospectively reviewed the records of all patients admitted into our hospital over a 5 year period from January 2006 to January 2011. We obtained information from the case notes including the age of the patients, duration of symptom, the type of priapism, aetiological factors, treatment, duration of hospital stay and complications. Spearmann and Pearson's correlations were used to evaluate non-parametric and parametric data respectively. We analyzed the data with SPSS 16.0 for Windows.

SURGICAL TECHNIQUE

The corporal aspiration was done under a penile block. A size 16 canula trocar was inserted through the glans penis into the corpora carvenosa and following aspiration of blood clots, a 1:100,000 adrenaline solution in normal saline was used to irrigate the corpora carvenosa while monitoring the patient's cardiovascular status. The surgical shunt was done under caudal/spinal anaesthesia.

RESULTS

The records of 46 out of the total of 56 patients who presented with priapism within the review period were available for evaluation. Table 1 summarizes the characteristics of the patients. The mean age of the patients was 25.4 (range 6 - 52) years. The mean duration of symptom was 74.4, (range 8- 336) hours.

All 46 patients had ischaemic type of Priapism. The most common aetiological factor was haemoglobinopathy in 29 (63%) patients. Twenty-six patients had sickle cell anaemia (HbSS) and three had HbSC disease. The other aetiological factors identified were use of aphrodisiac in 4 (8.7%), use of canned energy drink with the intention of boosting sexual performance in 1 (2.2%), use of an antipsychotic medication in 1 (2.2%), chronic myeloid leukaemia in 1 (2.2%) patient(s). There was no identified aetiology in 10 (21.7%) patients. There had been a previous episode of priapism in 17 (37%) patients, 12(70.6%) of whom were patients with haemoglobinopathy.

Spontaneous resolution of priapism occurred in 3 (6.5%) patients (the patient on antipsychotic and 2 of the patients with idiopathic priapism). Thirty-six (78.3%) patients were treated with corporal aspiration alone out of which 14 (38.9%) needed repeated corporal aspirations for resolution to occur. Seven (15.2%) patients underwent open surgical shunting procedures after three failed corporal aspiration.

The mean duration of hospital stay was 5.8 days (range 2 to 21). Thirty-four (73.9%) patients were available for a follow up review a month after discharge. The identified complications were erectile dysfunction in 10 (29.4%), wound sepsis in 5 (14.7%) and anaemia in 5(14.7%) patients.

The aetiology did not affect the duration of presentation ($p=0.749$), treatment outcome ($p=0.964$) or development of complication following treatment ($p=0.312$). There was also no correlation between a previous episode of priapism and early presentation ($p=0.464$), treatment outcome ($p=0.069$) or development of complication ($p=0.633$). Late presentation did not influence the efficacy of treatment ($p=0.980$). There was however a statistically significant correlation between late presentation beyond 6 hours and development of complication following treatment ($p= 0.036$).

Figure 1

Table 1

Characteristics	Frequency	%
Age		
<10	4	8.7
11-20	10	21.7
21-30	20	43.5
>30	12	26.1
Aetiology		
Haemoglobinopathy	29	63.0
Aphrodisiacs	4	8.7
Medications	1	2.2
Leukaemia	1	2.2
Energy Drink	1	2.2
Idiopathic	10	21.7
Duration of symptoms (hours)		
<6	0	0
6-12	4	8.7
13-36	10	21.7
>36	32	69.6
Treatment		
Spontaneous resolution	3	6.5
Corporal aspiration	22	47.8
Repeated aspiration	14	30.4
Surgical shunt	7	15.2
Complications		
Erectile dysfunction	10	29.4
Wound sepsis	5	14.7
Others (Anaemia)	5	14.7
Previous priapism episodes		
Yes	17	37
No	29	63

DISCUSSION

Priapism is not infrequently seen in our environment. It is a urological emergency requiring prompt medical attention if corporal fibrosis and attendant morbidity is to be avoided (6). Majority of the patients so afflicted are young and the morbidity may significantly impact on their quality of life. In our series, the average age was 25.4 years. Early presentation of patients with ischaemic priapism is important

in order to prevent irreversible hypoxic injury to the corporal carvenosal tissue with attendant erectile dysfunction. Potentially debilitating morbidities like penile gangrene have also been documented to complicate surgical treatment for late presentation (7). The majority of our patients presented late with a mean duration of symptom of 74.4 hours. This is surprising given that all of the cases were the ischaemic type. Patients with this type of priapism are presumed to present early due to the associated pain. The late presentation with our patients is probably due to the cultural inhibitions about sex and seeking help on complaints related to sexual matters. Thus most of these patients stay back at home hoping for a resolution which did not happen. Interestingly thirty seven percent (37%) of the patients had had a previous episode of priapism before.

The most common identified aetiological factor was Haemoglobinopathy accounting for 63% of the cases. This is in sharp contrast to studies in Caucasians in which the most common cause of ischaemic priapism is idiopathic (60% of cases). (8) It is however in keeping with the findings of Badmus et al amongst south western Nigerians. (4) The use of aphrodisiac only accounted for 8.7% of the cases. This is contrast to the findings by Aghaji et al in the study in Southeastern Nigeria. (3) It is possible however that some of our patients may also have denied it use. There has been an increasing preference for energy drinks amongst young people and it was not too surprising that one of the patients had actually taken an energy drink to boost his sexual performance. The identification of this brand of energy drink as the likely aetiological factor in this patient will naturally call for closer scrutiny of the content of such drinks. The only medication implicated in our study was an antipsychotic agent. A previous article by Salawu et al had implicated a combination of antipsychotic medications in priapism in a Nigerian. (9). Nearly a quarter of our patients were classified as idiopathic as there was no identifiable aetiological factor in these patients. This was the second most common aetiological factor in our study unlike in Caucasians in whom it ranks as the number one aetiological factor.(8)

Literature is replete with different methods of treating priapism all with varying degrees of success. The commonly recommended treatment for ischaemic priapism is corporal aspiration. Lawani et al found carvenostomies to effective in treating ischaemic priapism. (10)The main definitive treatment used in this series was corporal aspiration. This

treatment was effective in most of the patients (78.3%) though nearly half of these patients (38.9%) needed repeated aspiration for resolution to occur. This is not too surprising given the very late presentation of most of the patients. The corporal aspiration failed in seven of the patients necessitating an open shun for resolution to occur. . Most of the patients still had some residual penile oedema even after detumescence had occurred. They remained as inpatients while being monitored hence the relatively long hospital stay of 5.8 days.

There was no statistically significant correlation between the aetiology on the one hand and the duration, treatment outcome and development of complications on the other. Interestingly, a previous episode of priapism did not make patients present earlier ($p=0.464$).

The presence of erectile dysfunction in about a third of the patients available for follow up at one month once again brings to the fore the dangers associated with late presentation in ischaemic priapism. Indeed presentation beyond 6 hours was associated with a statistically significant risk of development of complication following treatment ($p=0.036$). In addition, the number of patients with erectile dysfunction from long-term ischaemic damage to the corporal carvenosa is expected to increase even the more with passage of time.

In conclusion, haemoglobinopathy remains the most common aetiological factor for ischaemic priapism in our environment with use of aphrodisiac playing a much less prominent role than had been previously reported. Late presentation is still the norm amongst our patients with attendant complication of erectile dysfunction. The identification of haemoglobinopathy as the most common aetiological factor is important as priapism in this group of patients identifies those at high risk for other sickle cell-related organ failure syndromes and as such, is another complication indicative of severe disease (11). While conservative measures may be sometimes helpful in patients with sickle cell disease, surgical intervention should always be done early (12). There should be an increase in public awareness and health education especially in patients with haemoglobinopathies as priapism is treatable by simple methods with minimal complications if patients present early.

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