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Pattern of Complications Following Prostrate Biopsies: A Five Year Review in Abia State University Teaching Hospital Aba, South Eastern Nigeria

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Abstract:

Prostate Cancer is the most common cancer among Nigeria men. Prostrate Biopsy remains the single most important investigation for establishment of prostate cancer diagnosis. Even though simple to perform and basically an outpatient procedure, often times, complications occur, some of which may be mild and self-limiting, while others may require hospitalization and other severe measures to deal with. The aim of this study is to analyze the rate and types of complications following biopsies done at Abia State University Teaching Hospital, Aba. Between January 2016 and December 2020 involving 198 men, 198 biopsies were done, out of which complications occurred in 55 cases (27.78%). Hemorrhage was the commonest cause with 28 cases (14.18%) followed closely by perianal pain with 11 cases (5.58%). Other complications seen included: vasovagal attack with 5 cases (2.28%), acute urinary retention with 4 cases (2.028%), lower urinary tract symptoms (luts) with 4 cases (2.028%) and sepsis with 3 cases (1.518%). Hemorrhagic complications were the most common complications found in Abia State University Teaching Hospital Aba.

Keywords: Prostate cancer, prostate biopsies, complications, ABA

1. Introduction

- Prostate Cancer is the most common cancer among Nigeria men (ikueworo et al, 2013).
- Prostate biopsy is the single most important procedure for establishment of diagnosis.

With increasing incidence and morbidity among men of black ancestry, (Delong champs etal 2007), prostate biopsy rate, therefore, has been on the increase.

Prostate biopsy involves obtaining prostate specimens for histo-pathological examinations.

Various investigations and prophylactic drugs are instituted to improve the safety of the procedure.

Despite all these precautionary measures, complications do occur most often self-limiting, but a few may be serious enough to warrant hospitalization.

Such complications include: hemorrhage, perianal pains, heamatospemia, acute urinary retention, lower urinary tract symptoms, synocopal attacks and even death.

The aim of this study is to analyze and highlight the major complications that may occur so that extra precautionary measures could be put in place while doing a prostate biopsy.

1.1. Aim and Objective

The study is aimed at analyzing the pattern of complications following prostate biopsies in Abia State University Teaching Hospital.

2. Methodology

This was a retrospective study of prostate biopsies done over a 5yr old period spanning from January 2016 to December 2020 in Abia State University Hospital, Aba.

Patient's folders were retrieved for analysis.

All the patients, who underwent prostate biopsy, were counseled on the need for the biopsy, the possible complication that could arise post biopsy and the need to report such complications.

Only those patients, who gave consent to post counseling, were biopsied. Pre-biopsy protocol was strictly adhered to.

Patients, who had been on anti-coagulants, had their biopsies postponed for about 10 to 14 days during which they were weaned off the drug temporarily. Common investigations included packed cell volume (pcv), platelet count and blood sugar levels. All the biopsies were transrectal, digitally guided using the extended sextant approach to take 10-12 cores of prostate tissue.

Local anesthesia using 10ml of 2% lignocaine was employed. No pre-biopsy enema was given.

Pre-biopsy medications included intravenous ciprofloxacin 200 mg start or ceftriazone 1g start, while post biopsy medications included oral ciprofloxacin 500mg bd, and metronidazole 400mg tid and paracetamol 1000mg tid all for about 5 days, The complications as recorded in the folders were collected and analyzed.

2.1. Inclusion Criteria

Only those patients, who developed complications following Prostate Biopsy done, were analyzed.

2.2. Exclusion Criteria

Patients without any form of complications were excluded.

1	Hemorrhage	28	14.1%
2	Perianal Pain	11	5.5%
3	Vaso Vagal Attack	5	2.52%
4	Acute Urinary Retention	4	2.02%
5	Lower Urinary Tract Symptoms(LUTs)	4	2.02%
6	Sepsis	3	1.51%
Total		55	27.7%

Table 1: Complications n=198

1	Mild Urethral Bleeding	14	7%
2	Mild Haematuria	9	4.50%
3	Vaso Vagal Attack	5	2.50%
4	LUTs Lower Urinary Tract Symptoms	4	2%
5	Acute Urinary Retention	4	2%
6	Perianal Pains	11	5.50%
7	Mild Sepsis	2	1%
	TOTAL	49	24.70%

Table 2: Showing Severity of Complications
Minor Complications (Clavien Dindo Grade 1) N=198

1	Rectal Bleeding Necessitating Rectal Packing and Pharmaceuticals	2	1%
2	Heamaturai Necessitating Hospitalization	1	0.50%
3	Rectal Bleeding Necessitating Hospitalization	2	1%
4	Sepsis Necessitating Hospitalization	1	0.50%
	Total	6	3.00%

Table 3: Major Complications (Clavien Dindo Grade2) n=198

1	Mild Urethral Bleeding	14	50%
2	Mild Heamaturai	9	32%
3	Rectal Bleeding Necessitating Rectal Packing	2	7%
4	Rectal Bleeding Necessitating Hospitalization	2	7%
5	Heamaturai Necessitating Hospitalization	1	3.50%

Table 4: Showing Cases of Hemorrhage N= 28

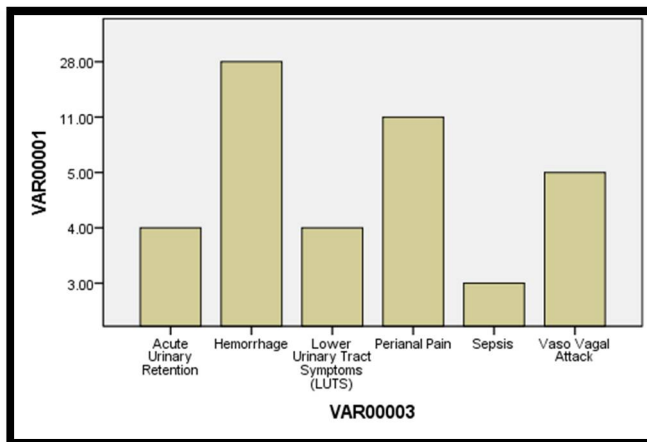


Figure 1: Graph of Number of Cases over Complications

Key:

Total Number of Biopsies Done= 198

Number of Complications Found=55

Number of Cases in Percentage

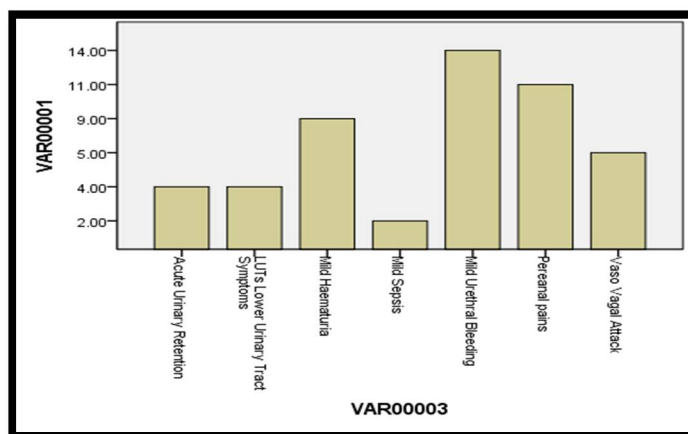


Figure 2: Cases with Minor Complications

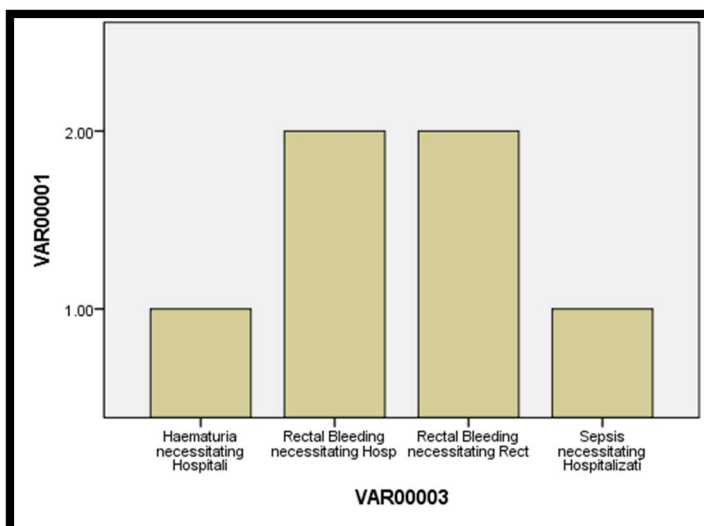


Figure 3: Cases with Minor Complications

Key:

Number of Complications: 55

Number of Minor Complications= 6

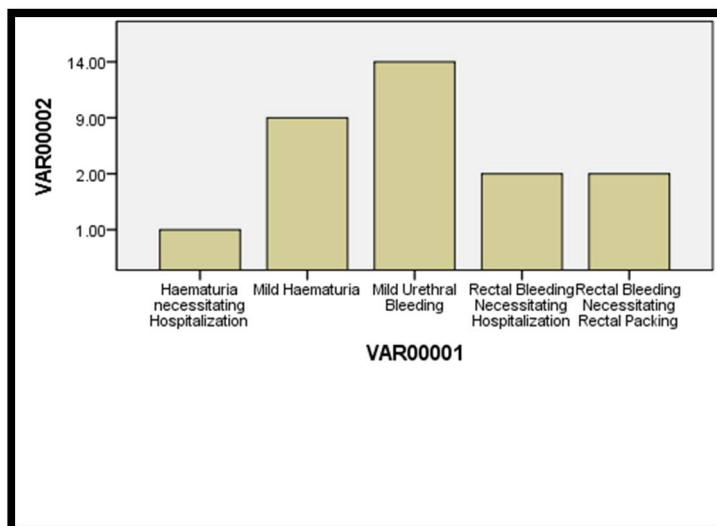


Figure 4: Number of Hemorrhagic Cases
Number of Hemorrhagic Cases= 28

3. Results

From table (n=198) biopsies were done with 55 (27.7%) of them having complications. Topmost was hemorrhagic complications at 14.1%. A Vaso vagal attack was at 2.5%. Acute urinary retention and lower urinary tract symptoms were both at 2.02%. Least was sepsis with 1.51%.

Of the 55 biopsies with complications, 49 (24.7%) were minor publications, with 6 (3.0%). Major complications had 6 cases consisting of rectal bleeding at 2(1%), with heamaturai and sepsis both having 1(0.5%) respectively.

Minor complications constituted 49 cases (24.7%), with mild urethral bleeding having 14 cases (7%), mild heamaturai (4.5%) having 9 cases, vasovagal attack (2.5%) having 5 cases, lower urinary tract symptoms (2%) having 4 cases, acute urinary retention (2%), perianal pain (5.5%) having 11 cases, mild sepsis (1%) having 2 cases.

Of the 28 cases of hemorrhage, 14 (50%) were as a result of mild urethral bleeding, next to it, was mild heamaturai with 9 cases (32%). Both Rectal bleeding necessitating rectal packing and rectal bleeding necessitating hospitalization had 2 cases (7%) respectively. Least of all was heamaturai necessitating hospitalization with 1 case (3.5%).

Thus, from the study, the commonest complication from the biopsies done was hemorrhage, of which mild urethral bleeding had 14 cases. Least complication was in the cases of sepsis.

4. Discussion

Prostrate Biopsy is the most common procedure carried out by Urologists, performed either through the rectal or perineal route. It is a simple out patients' procedure that may, at times, be accompanied by complications which may be self-limiting or may require hospitalization and administration of pharmaceuticals and blood.

Despite the pre-Biopsy precautionary protocol, hemorrhage appears to be the most common complication.

Using the clavien dindo classification, the complication could be categorized into 2 major groups.

Group 1 consists of minor complications and Group 2 consists of major complications that may warrant hospitalization, blood transfusions and pharmaceuticals.

In most works done by other workers, bleeding complication appeared to be the most common.

Mbieri *et al*, 2017, in their work in two centers in Anambra State, had Haematuria (22%) as the most common complication.

Omisanojo *et al*, 2019 found out that the increasing number of biopsy cores taken was a risk factor for adverse reactions following prostrate biopsy.

In another work by Ugwumba *et al*, 2020, it was found out that the occurrence of acute urinary retention and urosepsis showed significant association with age, psa and prostrate volume.

In our study, Haemorrhage was the most common complication. Of the bleeding complications, mild urethral bleeding was the most common followed by mild haematuria.

Using the Clavien Dindo Classification, minor complications grade 1 was 24.7%, while grade 2 major complications accounted for 3.03%

5. Conclusion

Prostrate Biopsy, though simple, is often accompanied by complications. In our study, we found bleeding complications to be the most common.

Practitioners should be aware of this and make adequate preparations while doing a Prostate Biopsy.

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