International Journal of Science and Research (IJSR)
ISSN: 2319-7064
SJIF (2019): 7.583

Histomorphological Spectrum of Prostatic Lesions in Yobe State, in North-Eastern Nigeria: A Preliminary Report

Tela UM[1], Adamu AI[2], Lawan AI[3], Abubakar BM[4]

[1]Department of Surgery, University of Maiduguri Teaching Hospital. Borno State, Nigeria
Email: *umtela[at]yahoo.com*

[2]Department of Histopathology, Federal Medical Centre, Nguru, Yobe State, Nigeria
Email: *adamuisaadamu99[at]gmail.com*

[3]Department of Histopathology, Federal Teaching Hospital. Gombe State, Nigeria

[4]Department of Surgery, Federal Medical Center, Nguru, Yobe State, Nigeria
Email: *babagana_mustapha[at]yahoo.com*

Abstract: ***Background: Lesions of the prostate including prostate cancer are globally recognized as common causes of morbidity and mortality in the men population. The incidences are increasing; their effects on the men's quality of life cannot be over emphasized. Objectives: The objectives of our study were to review the histology results of prostatic specimens in Yobe state. particularly, the histo-morphological spectrum of these lesions in short term (preliminary report), Methods: The results of prostatic specimens that were examined between October 2016 and September 2019 in the two departments of Histopathology of Yobe state University Teaching Hospital (YSUTH) and Federal Medical Centre Nguru were retrospectively reviewed and analyzed using SPSS version 20. Result: A total of 287 specimens were examined, out of which 161 (56.1%) specimens were reported in YSUTH. Nodular hyperplasia with or without associated prostatitis was the commonest prostatic lesion (237 specimens, 82.6%) among all the specimens. Adenocarcinoma was the only malignant type of lesion seen in 49 specimens (17.1%), mainly in the age group of 70-79yrs. More than half (53.1%) of these Adenocarcinoma were Poorly differentiated. Prostatic Intra-epithelial Neoplasia was seen in one specimen only. Conclusion: Although more benign lesions were observed than malignant, but most of the malignancies were poorly differentiated with potential bad prognosis. Hence, there is need to strengthen awareness campaign to allow for early detection of these lesions. KEYWORDS: Nodular hyperplasia, Prostate cancer, biopsy.***

1. Introduction

Worldwide, diseases of the prostate gland are responsible for significant morbidity and mortalities in men. These comprises of BPH, prostatis, and prostate cancers among others [1]. BPH, also histologically referred to as nodular hyperplasia is characterized by stromal and epithelial hyperplasia resulting in the formation of large discrete nodules in the peri-urethral region.

Studies in United states estimated that about 35% to 50% of males will develop chronic prostatitis/ Chronic pelvic pain syndrome in their lifetimes, also 1 in every 6 men stands the risk of prostate cancer[2],[3].In Nigeria, and perhaps globally, Prostate cancer still remains the most popular malignancy among men[4,5].

The objective of our study was to review the histology results of prostatic specimens in Yobe state. particularly, the histo-morphological spectrum of these lesions in short term (preliminary report).

2. Methodology

In this retrospective study, we reviewed the histology results of prostatic specimens generated over 3 years, between October 2016 to September 2019, from the 2 newly created departments of Histopathology of Yobe State University Teaching Hospital (YSUTH) and Federal Medical Centre (FMC) Nguru for the whole same state. Data extracted from the histology request forms were the demographic characteristics, source or nature of the specimens, histologic diagnoses of the lesions and the Gleason scores,For the ease of this analysis, all the histology results that were earlier reported as inconclusive, but later after a repeat of the biopsy were re-examined and concluded by the pathologist were considered as single entry into the data(for example, repeated trucut biopsies of prostate in the same patient, which was initially reported as inadequate specimen ,but after repeat of biopsy yielded results, were regarded as single entry in the data analysis). And all the inconclusive histology results that were not finally concluded by the pathologist were excluded from the study. The data were analyzed using statistical package for the social sciences (SPSS), version 20.0 and presented as tables and figure, and then discussed.

Table 1: Distribution of prostatic lesions with relation to age ranges

Age group (years)	Benign lesions	HGPIN	Malignant lesions	Total (%)
<40	2	-	-	2(0.7%)
40-49	2	-	-	2(0.7%)
50-59	41	-	3	44(15.4%)
60-69	78	1	11	90(31.5%)
70-79	76	-	22	98(34.3%)
80-89	31	-	8	39(13.6%)
90-99	7	-	5	12(4.2%)
Total	237	1	49	287(100%)

Licensed Under Creative Commons Attribution CC BY

Table 2: Gleason score related to age ranges

Gleason score	<40 yrs	40-49yrs	50-59yrs	60-69yrs	70-79yrs	80-89yrs	90-99yrs	Total (%)
2	-	-	-	-	-	-	-	0(0.0%)
3	-	-	-	-	-	-	-	0(0.0%)
4	-				1			1(2.0%)
5	-							0(0.0%)
6	-		1	1	6	2	1	11(22.4%)
7	-			3	4	2	2	11(22.4%)
8	-		1	2	6	1	1	11(22.4%)
9	-		1	4	3	1		9(18.4%)
10	-			1	2	2	1	5(10.2%)
Total	0	0	3	11	22	8	5	49(100.0%)

3. Results

A total of 287 histology results were collated, out of which 161(56.1%) results were obtained from YSUTH., and the remaining 126(43.9%) were obtained from FMC Nguru. The mean age for all the patients with prostatic lesions was 67.4years, while 2 peak Median age ranges for both benign and Malignant lesions of the prostate were 60-69 and 70-79 years as shown in table 1. The commonest source or nature of prostatic specimens sent by the surgeons to the pathologist were open prostatectomy specimens as shown in figure 1. All the specimens received were already preserved in formalin solution. Majority of the Lesions (82.5%)were benign, in the form of summation of nodular hyperplasia with and without of prostatitis, while Adenocarcinoma is the only histological type of malignancy reported in 49 of the specimens(17.1%) as shown in figure 2. More than half of the adenocarcinomas (26 specimens, 53%) were found to be poorly differentiated (Gleason scores of 8 and above) as shown in table 2.

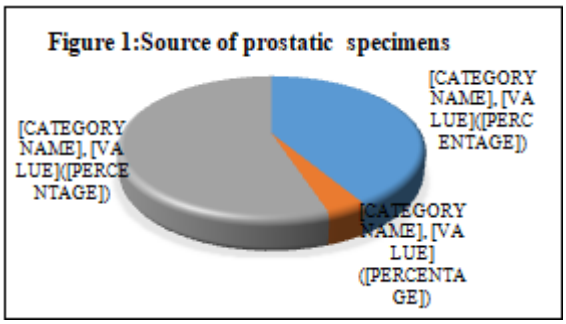

Figure 1: Source of Prostatic specimens

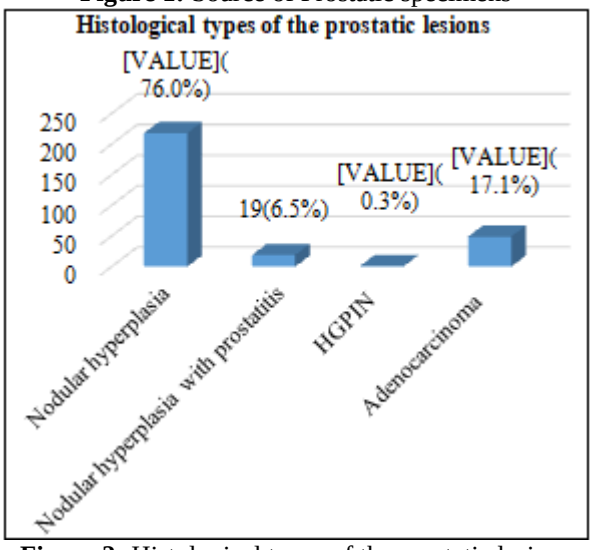

Figure 2: Histological types of the prostatic lesions

4. Discussion

In this study the mean age of the patient was 67.4yrs which closely relates to the findings of Aslam et al [6].Our 2 median age ranges of 60-69 and 71-79 years in each benign and malignant lesions closely corresponds with the median age ranges of 61-70 and 71-80 years of Thaker et al[7].

In our series the sources of prostatic specimens were from multiple sources comprising of open prostatectomy, trucut biopsy and TURP similar to the report to study of Aslam et al[6], but contrary to the studies of Thaker et al[7] and Sharma et al[8] in which all their specimens were purely from TURP. We had only 10 specimens that were TURP, because equipment for TURP were procured by the hospital not long ago. Open prostatectomy is a very common procedure and more popular than TURP in my region and other parts of Nigeria[9-11].

In our study, nodular hyperplasia (either with or without associated prostatitis) was commonest type of prostatic lesion we observed. Previous studies related to spectrum of prostatic lesions in different parts of world including Nigeria, Pakistan and India equally revealed nodular hyperplasia as the commonest lesion similar to our findings[1],[6-8]. Prostatitis was observed in 6.5% of our specimens examined, this percentage was although larger than the 2.5% reported by Abubakar et al[12]in the same Nigeria but grossly smaller than the 33.0% and 25% reported by Sharma et al and Mohammed et al in their previous studies[8],[13]. All the prostatitis assochiated BPH reported in our series were chronic prostatitis, evidenced by infilitration of the glands and the stroma by lymphocytes and plasma cells, however different types (acute, chronic and granulomatous prostatitis) were reported by Sharma et al and Mohammed et al , but still all of them were dominated by the chronic prostatitis. Prostatitis are clinically challenging to distinguish them from BPH because of similarities of symptoms, hence patients may be unknowingly treated for BPH instead of prostatitis.

All our prostate cancers diagnosed were Adenocarcinomas type, other histological types such as urothelial carcinoma, signet ring carcinorma, angiosarcoma and carcinosarcoma were previously reported[12]. More than half of our Adenocarcinomas (53.0%) were poorly differentiated (Gleason scores of 8 and above) which clearly higher the 48.0% and 33.0% reported by Abubakar et al and Forae et al respectively in Nigeria[12],[14]. Poorly differentiated cancers tends toward advanced disease with poorer prognosis. High grade Prostatic Intra epithelial Neoplasia(PIN) was uncommon and reported in only one specimen, other studies also observed very few PIN[8],[12].

5. Conclusion

Nodular hyperplasia with and without Prostatitis was the commonest prostatic lesion observed in Yobe state. Majority of patients with prostate cancers were histologically poorly differentiated adenocarcinoma and this tends toward poorer prognosis. There is need for public enlightenment on prostate cancer, and encouragement on early screening

Licensed Under Creative Commons Attribution CC BY

References

[1] Anunobi CC, Akinde OR, Elesha SO, Daramola AO, Tijani KH, Ojewola RO.Prostate diseases in Lagos, Nigeria.The Nigerian Postgraduate Medical Journal, Vol. 18, No. 2, June 2011
[2] Pollock PA, Ludgate A, Wassersug RJ. In 2124, half of all men can count on developing prostate cancer. *CurrOncol*. 2015; 22(1):10-12. doi:10.3747/co.22.2102
[3] Zhang J, Zhang X, Cai Z, Li N, Li H. The Lifetime Risk and Prognosis of Chronic Prostatitis/Chronic Pelvic Pain Syndrome in the Middle-Aged Chinese Males. *Am J Mens Health*. 2019;13(4):1557988319865380
[4] Mohammed A, Edino S, Ochicha O, Gwarzo A, Samaila A (2008) Cancer in Nigeria: a 10-year analysis of the Kano Cancer Registry. Niger J Med 17(3):280–284
[5] Badmus TA, Adesunkanmi A-RK, Yusuf BM, Oseni GO, Eziyi AK, Bakare TIB et al (2010) Burden of Prostate cancer in Southwestern Nigeria. Urology 76(2):412–416
[6] Aslam et al. Spectrum of prostatic lesions. International Archives of Medicine 2013, 6:36 http://www.intarchmed.com/content/6/1/36
[7] Thaker BD, Raina S, Singh K. HISTOPATHOLOGICAL SPECTRUM OF PROSTATIC LESION : A HOSPITAL BASED STUDY. Volume 6, Issue 7, July 2017,ISSN No 2277-8160
[8] Sharma A et al. Histomorphological spectrum of prostatic lesions: a retrospective analysis of transurethral resection of prostate specimens. Int J Res Med Sci. 2017 Jun;5(6):2373-2378
[9] Salako AA, Badmus TA, Onyia CU, David RA, Adejare IE, Lawal AO, Onyeze CI, Ndegbu CU. An audit of surgical site infection following open prostatectomy in a Nigerian Teaching Hospital. Afri Health Sci.2019;19(2): 2068-2072. https://dx.doi.org/10.4314/ahs. v19i2.30
[10] Tela UM et al. Spectrum of urological procedures in Yobe State University Teaching Hospital: an initial experience in a young west African hospital IntSurg J. 2021 Feb;8(2). http://www.ijsurgery.com
[11] Ugwumba FO , Ozoemena OF, Okoh AD, Echetabu KN, Mbadiwe OM.Transvesical prostatectomy in the management of benign prostatic hyperplasia in a developing country.Nigerian Journal of Clinical Practice • Nov-Dec 2014 • Vol 17 • Issue 6
[12] Abubakar A, Alhaji SA, Sanusi HM, Aliyu S, Musa MU, Abdullahi AS. Histopathological pattern of prostatic lesions in Kano, Northwestern Nigeria: A 14-year review. Ann Trop Pathol 2019;10:150-4
[13] Mohammed AZ, Nawana EC, Anjorin AS. Histopathological pattern of prostatic diseases in Nigerians. Afr J Urol 2005;11:33-8
[14] Forae G, Obaseki D E, Aligbe J U, Ekanem V J. Morphological patterns of prostatic lesions in Benin City, Nigeria: A twenty year retrospective study.Ann Trop Pathol 2011;2:23-28

Author Profile

Dr Usman M Tela, Consultant urologist, University of Maiduguri Teaching Hospital, Nigeria. Email:umtela@yahoo.com
Telephone:+2348033733312

Licensed Under Creative Commons Attribution CC BY