

Incedental Cancer of Prostate Among Pasienst Undergoimg Transurethral Resection of Prostate aged more than 50 Years

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ABSTRACT

Objective: To determine the incidental cancer of prostate among pasienst undergoimg transurethral resection of prostate aged more than 60 years at tertiary care Hospital

Subjects and Methods: This cross-sectional asutyd was done at pathology daerpatemnt of LUMHS from January 2019 to December 2020. Satudy was done after atking ethical approval from ethical review commetee of LUMHS Jamshoro. TURP specimns underwent overnight processing after being fixed ino 10% neutral buffered formalin. Each block had a single section taken from it that was stained with hematoxylin and eosin and inspected histologically. On the glass slides, all foci were marked, and the tumour volume was calculated as a visual representation of the tumor's percentage of the specimen's total surface area. According on the 2005 International Association of Urological Pathol (ISUP) consensus recommendations, Gleason scoring was performed. With immunoperoxidase staining, small tumour foci were confirmed. pT1a disease was defined as incidental tumor in 5% of TURP specimns. pT1b disease was defined as incidental tumor in > 5% of TURP specimns. All the data was collected via suyd profoema. SPSS version 26 was used for the data analysis.

Results: A toat of 800 cases were studied the incidence of prostate carcinoma was estimated 39.25%. mean age of the patients was 66.95+9.37 years. Most of the cases had, tumor grade II to V as 18.3%, 18.3%, 17.0% and 36.9% respectively. As per estimated tumor invasion, most of the cases had tumor invasion was >25% as 22.8% and tumor invasion 26-50%, 27.6% and 51-75% and 30.1% had 76-100%. Perineural invasion was observed in 42.3%of the cases and lymphovascular invasion was only in 3.2% of the acses.

Conclusion: The incidence of prostate carcinoma was observed to the highly frrequent as estimated 39.25% and most of the cases had, tumor grade II to V.

Keywords: Prostate, incidental cancer, stages

INTRODUCTION

In affluent nations, prostate cancer is the non-cutaneous cancer in which males are most frequently diagnosed.¹ Since the introduction of PSA screening in the early 1990s, the incidence levels of this crippling ailment have significantly increased globally. Prostate cancer is the second most frequent cancer in men overall, according to 1, 2, and its incidence and prevalence have recently increased in Pakistan.³ The age-standardised rate of incidence for Pakistan's Karachi city was 10.1 per 100,000 men between 1998 and 2002.⁴ Age greater than or equal to 55 years was associated with a nearly 17-fold increased chance of getting CaP.^{4,5} Numerous investigations have established the genetic relationship between cancer and its characteristic gene mutations.⁴ Comparing prostate cancer to other cancers, it is a little different. This is due to the fact that many prostate tumours do not readily spread to other body areas. Some prostate cancers develop very slowly and may go years or even a lifetime without exhibiting any symptoms or issues.⁶ Men can live with good health and a high quality of life for a while with prostate cancer, even when it has spread to other regions of the body. Prostate cancer can be controlled for a long period. Cancer can cause signs like pain and weariness and can occasionally result in death, while it can also be well treated with current treatments.⁶ The transitional region of the prostate is the area that is targeted during transurethral prostate resection (TURP). Only 2-7% of all prostate tumours are isolated prostate cancers that only occur in the transitional region (TZ).⁷ For the treatment in benign prostatic hyperplasia (BPH), a transurethral removal of the prostate (TURP) is a common operation.⁸ Patients having TURP for BPH can have incidental early stages prostate cancer (PC) detected by medical evaluation and/or imaging techniques (2).⁸ Recent research has looked at people who had T1a/b prostate cancer that was discovered inadvertently.⁹ The regional data provided by the numerous research on cancer rates or prevalence in Pakistan is

frequently erratic because of the peculiar ethnic makeup of that particular region or area.¹⁰

MATERIAL AND METHODS

This cross-sectional asutyd was done at pathology daerpatemnt of LUMHS. Study duration was 6 months from January 2019 to December 2020. Satudy was done after atking ethical approval from ethical review commetee of LUMHS Jamshoro. All consecutive TURP specimns werestudied for the current study. All the specimns were weoghrd. The samples were processed overnight in 10% neutral buffered formalin after being fixed. Each block had a single section taken from it that was stained with hematoxylin and eosin and inspected histologically. On the glass slides, all foci were marked, and the tumour volume was calculated as a visual representation of the tumor's percentage of the specimen's total surface area. Based on the 2005 International Association of Urological Pathol (ISUP) consensus recommendations, Gleason scoring was performed. With immunoperoxidase staining, small tumour foci were confirmed. The TURP reporting of incidental cancer complied with CAP guidelines. pT1a disease was defined as incidental tumor in 5% of TURP specimns. pT1b disease was defined as incidental tumor in > 5% of TURP specimns. All the data was collected via suyd profoema. SPSS version 26 was used for the data analysis.

RESULTS

A toat of 800 cases were studied the incidence of prostate carcinoma was estimated 39.25%. mean age of the patients was 66.95+9.37 years. Table.1

Most of the cases had, tumor grade II to V as 18.3%, 18.3%, 17.0% and 36.9% respectively. As per estimated tumor invasion, most of the cases had tumor invasion was >25% as 22.8% and tumor invesion 26-50%, 27.6% and 51-75% and 30.1% had 76-100%. Perineural invasion was observed in 42.3%of the cases and

lymphovascular invasion was only in 3.2% of the acses as shown in table.2

Table 1: Discriptive statistics of age of the patients n=312

Statistics	Age (years)	Specemen (grams)
Mean	66.95 years	14.29 grams
Std. Deviation	9.37 years	16.80 grams
Minimum	45 years	10.0 grams
Maximum	99 years	132.0 grams

Table 2: Cases distribution according to tumor grade, perineural invasion, lymphovascular invasion and category n=315

Variables		Frequency	Percent
Tumor grades	0	13	4.2
	I	17	5.4
	II	57	18.3
	III	57	18.3
	IV	53	17.0
Estimated tumor invasion	V	115	36.9
	<5%	10	3.2
	5-25%	51	16.3
	26-50%	71	22.8
	51-75%	86	27.6
Perineural invasion	76-100%	94	30.1
	No	180	57.7
Lymphovascular invasion	Yes	132	42.3
	No	302	96.8
Category	Yes	10	3.2
	<12g	200	64.1
	>12g	99	31.7
	12g	13	4.2

DISCUSSION

Along with the change in incidental cancer distribution brought on by PSA, less classic TURPs are being carried out as more modern procedures, including laser vaporisation, are becoming popular.^{11,12} These new methods occasionally fail to deliver tissue for pathological analysis, potentially missing tumours. Some accidental prostate cancers, particularly those with a higher Gleason index and stage pT1b, have been proven to be clinically significant.¹² Patients who have their prostate transurethraly removed for a benign form of hyperplasia may unintentionally show signs of prostate cancer. Therefore, it is very important that the transurethral resection of the prostate specimen is evaluated carefully for accurate grading and staging. In this study A toat of 800 cases were studied the incidence of prostate carcinoma was estimated 39.25%. On the other hand, a rate of 13.3% for incidental prostate cancer diagnosis was established. The mean age and PSA values of the accidental prostate cancer group were substantially higher than those of the benign hyperplasia of the prostate group. Comparing detection rates during the pre-PSA and post-PSA era, Tombal et al.¹⁴ discovered that among approximately 1600 people, the rate of recurrent prostate cancer decreased from 27% to 9%. T1b lesions experienced a greater reduction, going from 15% to 2%, than T1a lesions, that remained relatively stable at 3% to 5%.¹⁴ Similar findings were also found by Mai et al¹⁵ in their analysis of about 1000 TURP specimens. Both the overall rate of detection (12.9 to 8%) and the number of pT1b lesions (10% to 5%) were found to have significantly decreased. In a comparable study conducted more recently, Jones et al.¹⁶ discovered a drop in incidence of prostate cancer of 14.9% to 5.2%.

In this study mean age of the patients was 66.95+9.37 years. Consistently Shabbir A et al¹⁷ reported that the total 163 prostate cases were documented from 2014 to 2018, out of which 98 (60.1%) were of benign prostatic hyperplasia, which was most commonly diagnosed in men aged, 61-70 and prostatic adenocarcinomas having Gleason scores 8-10 were frequent and commonly seen in men aged 51-60 years. Over a third (36.5%) of the participants in an additional investigation by Beksisa J et al.¹⁸ were between the ages of 61 and 70. Patients' ages ranged from 43 to 91

years, with a mean age of 68 years. 18.3%, 18.3%, 17.0%, and 36.9% of the cases in this study, respectively, had tumour grades II to V. However, it has been shown that in India, 85% of prostate tumours were discovered late (stages III and IV), as opposed to only 15% in the United States. In this study as per estimated tumor invasion, most of the cases had tumor invasion was >25% as 22.8% and tumor invasion 26-50%, 27.6% and 51-75% and 30.1% had 76-100% and perineural invasion was observed in 42.3% of the cases and lymphovascular invasion was only in 3.2% of the cases. The transitional region of the prostate is the area that is targeted during transurethral prostate resection (TURP). Only 2-7% of all prostate tumours are isolated prostate cancers that only occur in the transitional region (TZ).^{20,21} Recent studies have revealed that cancers growing within the TZ have a more favourable outlook than those growing in the PZ.²⁰⁻²² Many groups claim the results of the TURP specimen might lack much value as a diagnostic as a result. Incidental prostate cancer (ICP) on TURP is still common in the post-prostate-specific antibody (PSA) testing era, appearing in 4.1-16.7% of TURP samples.²⁰ Oncological outcomes are common, but little study has been done on them despite modest series showing decent survival.²⁰

CONCLUSION

The incidence of prostate carcinoma was observed to the highly frequent as estimated 39.25% and most of the cases had, tumor grade II to V. Further large scale studies are recommended on this subjects specially at local level.

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