



PROSTATE CANCER; FREQUENCY OF PROSTATE CANCER IN DIFFERENT HOSPITALS OF KARACHI.

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ABSTRACT... Introduction: A study was done on the prostate cases received in pathology department, Dow Medical College, Dow University of Health Sciences, from different hospitals of Karachi to see the frequency of prostate cancer. **Objectives:** Benign hyperplasia prostate is common in middle and old age men, while prostate cancer is found more in older age group, it can occur in middle age also. **Methodology:** Slides / paraffin blocks were taken for study from 1st January 2008 to 31st December 2011 retrospectively and from 1st January 2012 to 31st December 2012 prospectively. **Results:** In present study 300 cases of prostate slides were studied in which 274 (91.33%) cases of benign hyperplasia prostate and 26 (8.67%) cases of prostate carcinoma were found of 46-74 years of age, including 2 (7.70%) cases, of 45 years of age. **Conclusions:** It is observed that the increased tendency of prostate carcinoma was found more after 50 years of age and in present study 2 cases, of 45 years of age, showing the occurrence of prostate carcinoma in early age.

Key words: Benign hyperplasia prostate, early age prostate carcinoma, prostate carcinoma.

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INTRODUCTION

Prostate cancer grows slowly in the prostate gland of male reproductive system; while few of them are grows aggressively¹. It is the second most frequently occurring cancer and sixth leading cause of cancer death in males. The variable incidence is more than 25-fold worldwide. It is also known as fourth common malignancy worldwide². The highest rates were recorded in the developed countries of Oceania, Europe and North America, due to early detection of slow-growing tumors by prostate-specific antigen (PSA) testing. While in the African descent Americans there is highest prostate cancer mortality rates in the world, may be due to genetic susceptibility³. Prostatic carcinoma is higher and advanced in Africa and America than other European's countries. It depends upon external (e.g., income, education, insurance status) and cultural factors. Higher levels of testosterone are found in African American men lead to increase incidence of

carcinoma in that population⁴. Early PSA testing and improved treatment of prostate cancer cause decrease death rates in many developed countries, like Australia, Canada, United Kingdom, United States, Italy, and Norway. Incidence and mortality rates have been rising in western, central and eastern European countries and in Asia and Japan as well⁵. Old age, race (black), and family history are well known risk factors⁶.

It is more common above 50 years of age (old age) and rare before 50 years of age. Most of the cases are diagnosed 70-74 years of age and about three-quarters of cases occur in men over 65 years of age⁷. Different types of food like dairy products, red meat, and high intake of fat are the risk factors of prostate cancer, its progression and mortality, while protective effects are gained by tomatoes, vitamin E, and selenium². Recent studies suggest the high body mass index (BMI), high bone mass and high calcium intake may cause prostate

cancer⁸. Incidence of prostate cancer becomes double when first-degree relatives are affected⁹. With a positive family history the malignancy can be diagnosed 6 to 7 years earlier than those without affected first-degree relatives¹⁰. The 5% to 10% occurrence of all prostate cancer and 40% in 55 years of age may have a hereditary basis⁹. Androgens also play a major role in growth, differentiation and formation of adenocarcinoma of prostate¹¹.

MATERIAL & METHODS

300 Slides / paraffin blocks of prostate biopsies, including 274 (91.33%) cases of benign hyperplasia prostate and 26 (8.67%) cases of carcinoma prostate, were received in the Department of Pathology, Dow Medical College, Dow University of Health Sciences, Karachi; from Civil Hospital, Government Lyari General Hospital and Government Services Hospital, Karachi, from patients, 46 to 74 years of age. The cases were received of two categories i.e. retrospectively & prospectively.

A clinical protocol including the particulars about the patients name, age, and diagnosis were obtained from the surgical pathology registers, request cards and copies of the report. Haemotoxylin and eosin (H&E) stained slides of all cases were used with special staining help in reaching a specific diagnosis.

RETROSPECTIVE CASES

Out of total, 242 (80.66%) retrospective slides / paraffin blocks of biopsies of prostate, 221 (71.99%) cases of benign hyperplasia prostate and 21 (7%) cases of prostate carcinoma including 24 cases of prostate carcinoma from patients 46 to 74 years of age and 2 cases of 45 years of age were studied from 1st January 2008 to 31st December 2011.

PROSPECTIVE CASES

Total 58 (19.34%) prospective slides / paraffin blocks of biopsies of prostate, including 53 (17.70%) cases of benign hyperplasia of prostate and 5 (1.67%) cases of prostate carcinoma of patients, 46 to 74 years of age, were received from

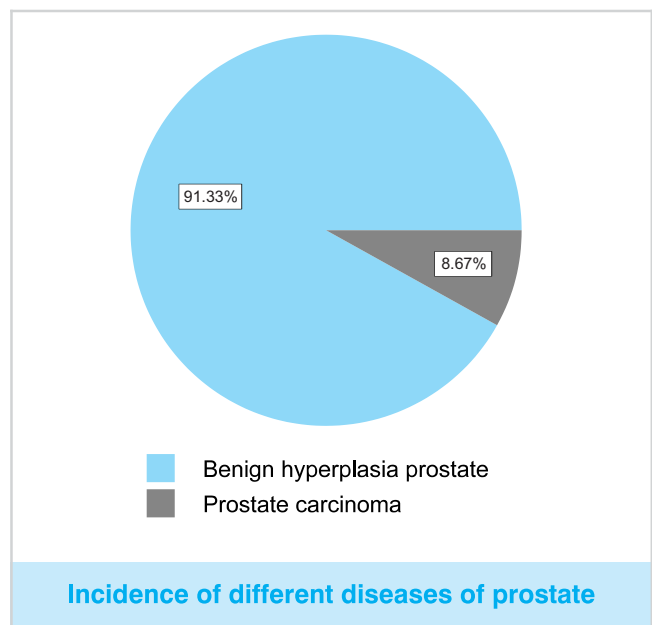
1st January 2012 to 31st December 2012.

RESULT

In total 26 (8.67) cases of prostate carcinoma, 24 (92.30%) cases of 46 to 74 years of age (including 2 (7.70%) cases of 45 years of age), were received retrospectively and 5 (19.23%) cases were recieved prospectively, 46 to 74 years of age. The mean age is 59 years.

| Disease of prostate | No. of cases | % |
|-----------------------------|--------------|-------|
| Benign hyperplasia prostate | 274 | 91.33 |
| Prostate carcinoma | 26 | 8.67 |
| Total | 300 | 100 |

Table-I. Showing incidence of different diseases of prostate

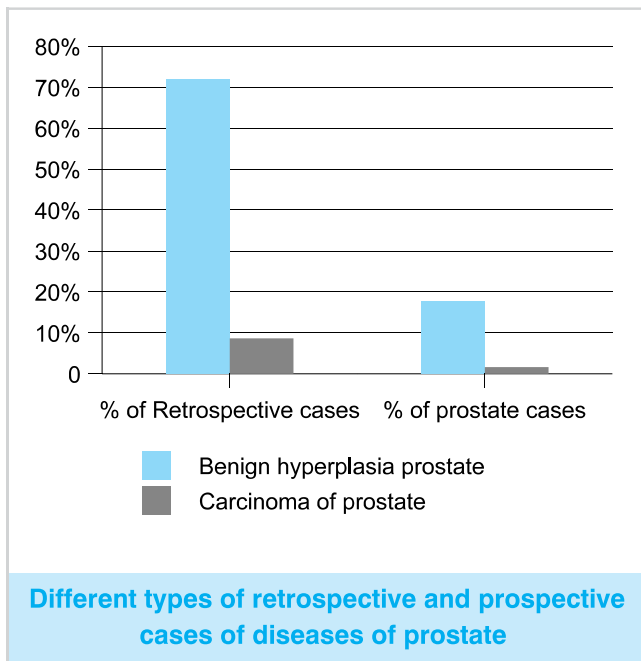


DISCUSSION

Prostate cancer is a commonly diagnosed cancer in western countries but there is sparse information about the demographics of this malignancy in Pakistan. An overview of prostate cancer was done in Karachi, Pakistan in 2002¹². It is the most common malignant tumor in men over the age of 65 years¹³. In the European Union there is 13% occurrence of prostate cancer and it is not well known in Pakistan¹⁴. It is common cancer in Pakistan due to increasing elderly population and

| Disease of prostate | No. of retrospective cases | % of retrospective cases | No. of Prospective cases | % of prospective cases |
|-----------------------|----------------------------|--------------------------|--------------------------|------------------------|
| Benign hyperplasia | 221 | 73.67 | 53 | 17.70 |
| Carcinoma of prostate | 21 | 7.0 | 05 | 1.67 |
| Total | 242 | 80.67 | 58 | 19.34 |

Table-II. Showing different types of retrospective and prospective cases of diseases of prostate



histologic cancer were reported in 34% cases of the same age group²⁰. Other study showed the incidence of 20% prostate cancer in 50 to 60 years age group and 50% in 70 to 80 years age group. There is lifetime risk of 42% occurrence for developing histologic evidence of prostate cancer in 50 years of age²¹.

In the present study, 26 (8.67%) cases of prostate carcinoma, received up to 46 to 74 years of age, in which 24 (92.30%) cases were received from 50 to 74 years of age and 2 (7.70%) cases of 45 years of age, indicating increase incidence of prostate cancer in early (45 years) age. The mean age is 59 years.

About 899,000 cases were diagnosed with prostate cancer in 2008 in Europe, and a worldwide study showed more than two-thirds of cases were diagnosed in developed countries. The highest rates are found in Australia / New Zealand, Western, Northern Europe and Northern America, due to early detection of prostate specific antigen (PSA) testing and biopsy²². In 2008, 37,051 new cases of prostate cancer were diagnosed, in UK, calculated as 101 men every day or one man every 15 minutes having/ diagnosed as prostate carcinoma. The number of cases from 1975 to 2008 in UK become more than quadrupled from 8,042 in 1975 to 36,089 in 2008⁷. Increase incidence of prostate cancer in Scotland occurred between 1981 and 1996 due to start of transurethral resection of the prostate (TURP) before 1989,²³ and afterwards through the rising use of PSA testing²⁴. In the USA widespread Prostate specific antigen (PSA) testing in 1986 in asymptomatic men resulted in increases in incidence (an 82% rise between 1986 and 1991)²⁵. Prostate cancer incidence rates increased in

| Disease of prostate | No. of cases | % | Age group / years |
|---------------------|--------------|-------|-------------------|
| Prostate carcinoma | 24 | 92.30 | 46-74 |
| Prostate carcinoma | 02 | 07.70 | 45 |
| Total | 26 | 100 | |

Table-III. Showing different age group of 26 cases of prostate cancer

relatively better diagnostic method¹⁵. In a study the incidence of carcinoma prostate was 14%¹⁶. Other studies reported 4%, 6% and 4% incidence¹⁷. A study shows 8% incidence of prostate cancer conducted on 126 patients¹⁶. Lowest incidence of carcinoma was reported in Japanese, because they take less quantity of fat¹⁸. In a study, 2% to 4% cases of prostate carcinoma were found in 40-49 years of age¹⁹. In another study, small foci of

1973–1977, in the world, was 6 fold higher in more developed countries than less developed countries. While for long time the incidence of prostate cancer in China was remained to be the lowest in the world²⁶.

CONCLUSIONS

In the present study, the incidence of prostate carcinoma is 26 (8.67%) cases out of 300 cases, showing 2 (7.70%) cases of prostate carcinoma in 45 years of age (early age) while the increased tendency of prostate carcinoma was found more after 50 years of age. The median age of prostate carcinoma is 59 years and most of the cases were diagnosed as moderately or poorly differentiated tumors in older age group. Awareness about the risk factors and early diagnosis with early symptoms (of benign hyperplasia prostate) around 45 years of age is helpful to reduce and control the disease/cancer occurrence.

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PREVIOUS RELATED STUDY

H A Mwakyoma, J L MAGANDI. PROSTATE CANCER; CORRELATION OF GLEASON'S SCORE AND PRETREATMENT PROSTATE ANTIGEN IN PATIENTS (Original) Prof Med Jour 17(2) 235-240 Apr, May, Jun 2010.



Intelligence
is the ability to adapt to change.

Stephen Hawking

