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Pathology

THE PREVALENCE OF LATENT HISTOPATHOLOGICAL PROSTATE CARCINOMA IN TRICHY: AN AUTOPSY STUDY.

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ABSTRACT

Background: Latent adenocarcinoma of prostate refers to cases who present no obvious sign or symptom during their life span and the tumor is incidentally found at postmortem examination. Its incidence can be very important in epidemiologic investigations, prevention and treatment.

Objectives: The aim of present study is to determine the incidence of latent prostate carcinoma by studying the prostate of men above 30 years old and under 80 year old referred to forensic medicine in KAPV Govt Medical college/ MGM Govt Hospital-Trichy.Tamilnadu

Methods: A diagnostic evaluation study was conducted in the Department of pathology, KAPV Govt Medical college-Trichy,Tamilnadu .In this study, 68 men aged above 30 and under 80 year old who had died of different reasons and undergone autopsy were examined. Their prostates were excised and the slides were studied for the presence of adenocarcioma. In each case, age, weight of prostate, location of lesion, and grading according to Gleason's system were determined and the results were analyzed .

Results: Out of 68 cases, 3 cases(4.41 %) were invasive adenocarcinoma. Most of the tumors were located in posterior lobe of prostate and they were more frequent in older cases (>60 years of age).

conclusion: Worldwide studies show lower prevalence of latent carcinoma of prostate in Asian men than white European ones. The limitation of the study is small sample size. so the results cant be be generalised to a larger population. Therefore further studies are warranted to get a better estimate of incidence latent prostate carcinoma in autopsy

KEYWORDS : Latent prostate Cancer, Autopsy, incidence

Introduction:

The overall incidence rate of prostate carcinoma is increasing in the world. Early detection of cases in the process of screening and primary stages of the disease is probable reason for this issue. It is estimated that one out of 6 male Americans will experience prostate cancer[1] . The disease has been increasing faster since 1990s, after introduction of PSA (prostate-specific antigen)test. However, prevalence rate varies in different parts of the world. previously it was thought, that prevalence of prostate cancer in India is far lower as compared to the western countries but with the increased migration of rural population to the urban areas, changing life styles, increased awareness, and easy access to medical facility, more cases of prostate cancer are being picked up. The aim of the present study is to determine the incidence of latent prostate carcinoma in autopsy - Trichy Dist,Tamilnadu, India.

Materials and Methods:

The present cross-sectional study included 68 prostate specimens of men aged above 30 and under 80 years of age who died between August 2016- August 2017 of causes other than carcinoma of the prostate. Diagnostic evaluation study was conducted in the Department of pathology, KAPV Govt Medical college-Trichy,.All specimens were sectioned in consecutive autopsies and subjected to histopathology examination.

Histopathology:

The specimens were received for histopathological examination were fixed in 10% formalin for 24 – 48 hours. Then detailed gross examination including weight, measurement, shape, colour and consistency were noted. Three samples were randomly taken from the right and left halves. In this way, at least 6 sections were obtained from each prostate for the purpose of staining and preparing slides. Through processing steps the samples were turned into paraffin blocks, and after cutting sections by microtome and preparing slides, they were stained by hematoxylin and eosin (H&E). Pathologist reviewed all slides for , invasive adenocarcinoma and its grade (according to Gleason scoring system) as well as location of them.

Ethical Issues:

To conduct the study permission was obtained from department including Department of forensic medicine, KAPV Govt Medical college/ MGM Govt Hospital-Trichy,Tamilnadu. Ethical clearance was obtained from Institutional Ethical Committee, KAPV Govt Medical college/ MGM Govt Hospital-Trichy,Tamilnadu.

Results:

Invasive adenocarcinoma was detected in 3 (4.41%) out of all studied cases including2 cases (66.66%) in the posterior, 1 case (33.33%) in the anterior, lobes of prostate. In this group, the minimum and maximum ages of the subjects were 51 and 79with an average of 51.10 years (SD=13.4). In this group, 2 cases (66.66%) were over 61 years old whereas 1(33.33%) cases were detected in younger subjects (50-60 years old) .The averageweight of prostates with malignancy was 45.13 gm (SD=20.76). In this group, lack of history of prostate carcinoma was confirmed by reviewingof the existing files. The obtained Gleason scores (GS) in adenocarcinoma groups were 4 (2+2), 6 (3+3),and 9 (5+4), in each cases.

Discussion

Prostate cancer is the third most common cancer among men worldwide. Every year, half a million cases of prostate carcinoma are seen all over the world, which accounts for approximately 10% of cancer incidence rates in the world[2] .Although in most industrial countries the incidence rate of prostate cancer is increased, its overall mortality rate is decreasing. The main reason for this reduction is the improvements in medical health care facility and screening programs[3]. In the countries where screening methods for prostate cancer are not common yet, our knowledge of incidence rate is slight. In China, the incidence rate of prostate cancer was reported to be 26 times lower than America in 1991[4] .However, the improvements in the screening methods have helped increase the identification of prostate cancer cases in china and other Asian countries[5] .Most of our information about the incidence rate of prostate cancer is related to the cancer registry reports in different countries. According to these studies, India is considered to have a low prevalence rate of prostate cancer. Although environmental and genetic variations may account for these statistical variations to some extent, some experts attribute these differences to uncommon screening plans and insufficient identification of the cases. So , some studies have been designed to determine the incidence rate of latent prostate cancer in different countries. Latent carcinoma is a kind of cancer which only can be diagnosed through examination after death.Studies reveal that the incidence rate of latent carcinoma is higher in western societies. In United States of America, 34-36% of autopsy specimens taken from men above 30 years old revealed prostate cancer. But this rate is lower in European countries especially in the areas around the Mediterranean sea (for example, 18.5% in Spain and 18.8%. in Greece). Among Asian countries, the incidence rate of latent carcinoma

is 20.5% in Japan, but in other countries such as Hong Kong, Singapore and China it is much lower .In two separate studies done by Lee and Liu, the incidence rate of the cancer in Chinese and Taiwanese men were 4% and 8.2% respectively.Another study carried out in India (by Desai et al. 2002), showed that the incidence rate of latent carcinoma was 6.8% in Indian men .

Table No 1 shows a comparison between the results of the our study and other studies in Asian countries .

Table No -1

S. no	country	Authors	Total Number of Samples	Mean age (years)	No of latent cancer cases	Ca (%)
1	India	Desai et al[6]	44	54.7	3	6.8
2	China	Yi-Ping Zhu et al[7]	92	67.1	3	3.3
3	Iran	Hosseini et al[8]	50	62.5	7	14
4	Japan	Yatani et al	576	Not available	119	20.5
5	Mainland China	Liu et al[9]	49	65.3	4	8.2
6	Taiwan, China	Lee et al[10]	248	63	10	4
	Our study		68	51.10	3	4.41

Conclusion:

Since the prevalence of prostate cancer shows significant racial and geographical variations, our autopsy findings of a lower incidence of latent prostate cancer in our study population suggest that these conditions are associated with the relatively lower incidence of clinical prostate cancer in India. The limitation of the study is small sample size. so the results cannot be generalised to a larger population. Therefore further studies are warranted to get a better estimate of latent prostate carcinoma incidence in autopsy.

REFERENCES:

1. Edwards BK, Brown ML, Wingo PA, HoweHL, Ward E, Ries LAG, et al. Annual report to the nation on the status of cancer, 1975-2002,
2. Parkin DM, Bray F, Ferlay J, Pisani P. Globalcancer statistics, 2002. Cancer J Clin 2005;55:74-108.
3. Nicolas B. Delongchamps, Amar Singh and Gabriel P. Haas. The Role of Prevalence in the Diagnosis of Prostate Cancer. Cancer Control July 2006, Vol. 13, No. 3,158-168
4. Yu H, Harris RE, Gao YT, Gao R, Wynder EL.Comparative epidemiology of cancers of the colon, rectum, prostate and breast in Shanghai, China versus United States. Int J Epidemiol 1991;20:76-81
5. Gu F. Epidemiological survey of benign prostatic hyperplasia and prostatic cancer in China. Chin Med J (Engl) 2000;113:299-302.
6. Desai SB, Borges AM. The prevalence of highgrade prostatic intraepithelial neoplasia in surgical resection specimens: an Indian experience. Cancer 2002; 94: 2350–2.
7. Yi-Ping Zhu, Ding-Wei Ye, Xu-Dong Yao, Shi-Lin Zhang, Bo Dai, Hai-Liang Zhang, et al. Prevalence of incidental prostate cancer in patients undergoing radical cystoprostatectomy: data from China and other Asian countries. Asian Journal of Andrology 2009; 11: 104–108.
8. Hosseini SY, Danesh AK, Parvin M, Basiri A, Javadzadeh T, Safarinejad MR et al. Incidental prostatic adenocarcinoma in patients with PSA less than 4 ng/mL undergoing radical cystoprostatectomy for bladder cancer in Iranian men. Int Braz J Urol 2007;33: 167–73; Discussion 73–5.
9. Liu R, Shao GX, Qin RL, FX K. Coexistence of transitional cell carcinoma of bladder and adenocarcinoma of prostate (report of 5 cases). Chin J Urol 1996; 17: 738–9
10. Lee SH, Chang PL, Chen SM, Sun GH, Chen CL, Shen BY, et al. Synchronous primary carcinomas of the bladder and prostate. Asian J Androl 2006; 8: 357–9.