Original Article

Analysis of Known Risk Factors for Bladder Cancer in Pakistan

Risk Factors for Bladder Cancer

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ABSTRACT

Objective: The main objective of the study is to find the known risk factors of bladder cancer in Pakistani population.

Study Design: Cross-sectional study

Place and Duration of Study: This study was conducted at the conducted in Department of Urology, University College of Medicine, University of Lahore is one year from June 2019 to June 2020.

Materials and Methods: Hospital records of patients under the age of 40 years who underwent urinary bladder carcinoma operations were included in this study.

Results: One hundred eighty patients under 40 years of age (87 females, 93 males; range 17-49 years; mean 40.4 ± 3.2 years) were included in this study. When the total population of 180 patients under age 40 is considered, the distribution of bladder cancer within age categories is as follows: under age 30 years, 8 patients (4%); age 30-39 years, 46 patients (26%); age 40-49 years, 126 (70%).

Conclusion: It is concluded that the Smoking, in particular cigarette smoking, is a well-known risk factor for various diseases including bladder cancer. The impacts of other sort of smoking (stogie, pipe, Egyptian waterpipe, smokeless tobacco and natural tobacco smoking) have been researched uniquely in a couple of studies.

Key Words:

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INTRODUCTION

Bladder cancer is the tenth most basic cancer around the world, with the most noteworthy rates revealed in Europe, North America and Australia, and representing an expected 261 000 new cases analyzed and 115 000 passings every year; by correlation, generally low rates are found in the Far Eastern nations[1]. In Europe, bladder cancer is the fifth most ordinarily analyzed cancer type and the ninth driving reason for cancer mortality. It influences men more oftentimes than ladies. Ordinary of strong tumors, bladder cancer frequency increments with age. Tumors of the bladder seldom happen before the age of 40 – 50, emerging most usually in the seventh decade of life. The middle ages at conclusion are 69 years for men and 71 for ladies[2].

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Histologically, most instances of bladder cancer are temporary cell carcinomas (90 %); 70 % of these are shallow and papillary subtypes. The more uncommon sorts are squamous cell carcinoma (3 - 5 %); adenocarcinoma (0.5 to 2 %); little cell carcinoma (under 0.5 %); and sarcoma, carcinosarcoma/ sarcomatoid tumors, paraganglioma, melanoma and lymphoma (under 0.1 %). Haematuria, i.e., successive pee and agony during pee, are the most well-known side effects of bladder cancer[3].

Smoking is the main danger factor for bladder cancer. Smokers are in any event multiple times as prone to get bladder cancer as non-smokers. Smoking causes about portion of all bladder cancers in the two people[4]. Arsenic in drinking water has been connected with a higher danger of bladder cancer in certain pieces of the world. The possibility of being presented to arsenic relies upon where you reside and whether you get your water from a well or from a public water framework that satisfies the guidelines for low arsenic content. For most Americans, drinking water is certainly not a significant wellspring of arsenic[5].

MATERIALS AND METHODS

This cross sectional study was conducted in Department of Urology, University College of Medicine, University of Lahore. Hospital records of patients under the age of 40 years who underwent urinary bladder carcinoma operations were included in this study. Specifically, the following documents where reviewed; admission notes,

operative notes, discharge summaries, endoscopy records, and pathology reports. The main study variables included: demographics, presenting symptoms leading to diagnosis, family history of bladder carcinoma, tumor location, type of surgical resection, stage and differentiation of disease, and post-operative complications. Patients with inflammatory bowel disease or known polyposis syndromes such as familial adenomatous polyposis syndrome, Final diagnosis was established after histopathological examination of biopsied tissue.

Statistical Analysis: Statistical methods for comparing stage and tumor distribution between the under age 40 years and the 50 and over years groups included a 2-proportion *Z* test.

RESULTS

One hundred eighty patients under 40 years of age (87 females, 93 males; range 17-49 years; mean 40.4 ± 3.2 years) were included in this study. When the total population of 180 patients under age 40 is considered, the distribution of bladder cancer within age categories is as follows: under age 30 years, 8 patients (4%); age 30-39 years, 46 patients (26%); age 40-49 years, 126 (70%). Of note, 30% of the patients were younger than 40 years of age. One hundred and seventy patients (94%) reported symptoms upon presentation.

Table No.1: Patients' presenting signs and symptoms of bladder cancer *n* (%)

Clinical presentation	Patients
Rectal bleeding	99 (57)
Anemia	19 (11)
Abdominal pain	54 (31)
Bladder pain	7 (4)
Change in bowel habits	37 (21)
Weight loss	20 (11)
Bowel obstruction	16 (9)
Perforation	5 (3)
Perforated diverticulitis	1 (0.6)
Screening	5 (3)
Unknown	7 (4)

Table No.2: Environmental factors for Urinary bladder cancer

Factors	N	% age
Occupational Factors		
Textile works	37 (21)	30%
Patrol pump works	47 (26)	40%
Sui gas works	70 (39)	27%
Paint works	26 (14)	3%
Leather works	88 (22)	38%
Rubber work	143 (36)	37%
Plastic work	135 (34)	19%
Dyeing work	26 (7)	6%
Non- Occupational		
Smoking	47 (7)	40%
Drinking water quality	12 (3)	9%

DISCUSSION

Smoking is a notable danger factor of ongoing lung illness, coronary illness and different kinds of disease including bladder malignancy. A few epidemiological investigations and audits depict the effect of cigarette, stogie, pipe and natural tobacco smoking[6,7].

Cigarette smoking is the essential danger factor for bladder disease. In a new meta-examination of 43 distributed case-control and associate investigations, Zeegers et al. inferred that current cigarette smokers have an around triple higher danger of bladder malignant growth than non-smokers[9]. In a consolidated examination of 11 case-control concentrates from six European nations, hazard for bladder disease expanded with length of smoking (number of years smoked) and force of smoking (number of cigarettes smoked each day)[8]. The age-and sex changed rundown chances proportions for current and previous cigarette smokers contrasted and those for non-smokers were 3.33 (95 % certainty span (CI), 2.63 – 4.21) and 1.98 (95 % CI 1.72 – 2.29), individually. The Netherlands Cohort Study the associations between cigarette smoking and bladder malignancy hazards were concentrated in detail. Zeegers et al. discovered that the tar and nicotine substance of cigarettes, and channel tip use were just feebly connected with bladder malignant growth hazard. Disease of the urinary bladder has an overall danger related with tobacco utilization of 3.0; the general danger for pancreas malignancy related with tobacco use is 2.0 – 4.0[9].

The relationship of ecological tobacco smoking has been researched distinctly in a couple of studies. Kabat et al. detailed data from a populace based US case control study where no huge danger of bladder malignancy in either sex was seen when looking at 84 non-smoking cases and 266 medical clinic controls[10]. In an enormous Japanese planned investigation, no huge expanded danger was seen in the spouse related with the husband's smoking. A populace based case-control study was directed in Canada. Hazard of bladder malignant growth was not expanded according to natural tobacco smoking openness at home or at work[10].

CONCLUSION

It is concluded that the Smoking, in particular cigarette smoking, is a well-known risk factor for various diseases including bladder cancer. The impacts of other sort of smoking (stogie, pipe, Egyptian waterpipe, smokeless tobacco and natural tobacco smoking) have been researched uniquely in a couple of studies. The exact component of smoking-prompted bladder malignant growth still can't seem to be resolved.

Author's Contribution:

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Conflict of Interest: The study has no conflict of interest to declare by any author.

REFERENCES

1. Volanis D, Kadiyska T, Galanis A, Delakas D, Logotheti S, Zoumpourlis V. Environmental factors and genetic susceptibility promote urinary bladder cancer. Toxicology Letters 2010;193:131–137.
2. Ahirwar D, Kesarwani P, Manchanda PK, Mandhani A, Mittal RD. Anti- and proinflammatory cytokine gene polymorphism and genetic predisposition: association with smoking, tumor stage and grade, and bacillus Calmette-Guérin immunotherapy in bladder cancer. Cancer Genet Cytogenet 2008;184:1–8.
3. Dahm P, Gschwend JE. Malignant Non-Urothelial Neoplasms of the Urinary Bladder: A Review. Eur Urol 2003;44:672–681.
4. Brennan P, Bogillot O, Cordier S, Greise E, Schill W, Vineis P, et al. Cigarette smoking and bladder cancer in men: a pooled analysis of 11 case-control studies. Int J Cancer 2000;86:289–94.
5. Pitard A, Brennan P, Clavel J, Greiser E, Lopez-Abente G, Chang-Claude J, et al. Cigar, pipe, and cigarette smoking and bladder cancer risk in European men. Cancer Causes Control 2001; 12:551–556.
6. Meliker JR, Nriagu JO. Arsenic in drinking water and bladder cancer: review of epidemiological evidence. Trace Metals and other Contaminants in the Environment 2007;9:551–584.
7. Larsson SC, Andersson SO, Johansson JE, Wolk A. Diabetes mellitus, body size and bladder cancer risk in a prospective study of Swedish men. Eur J Cancer 2008;44(17):2655–2660.
8. Kuper H, Boffetta P, Adami HO. Tobacco use and cancer causation: association by tumour type. J Internal Med 2002;252:206–224.
9. Zeegers MPA, Kellen E, Buntinx F, van den Brandt PA. The association between smoking, beverage consumption, diet and bladder cancer: a systematic literature review. World J Urol 2004;21:392–401.
10. Doll R, Peto R, Wheatley K, Gray R, Sutherland I. Mortality in relation to smoking. 40 years' observations on male British doctors. Br Med J 1994;309:901–911.