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LETTER TO THE EDITOR

Trend of Bladder Cancer in Fars Province, Southern Iran, 2002-2006

Dear Editor,

In the Unites States, bladder cancer is the fourth leading cancer in men and the ninth most common cancer in women[1] with an increasing trend from 1975 to 2004.[2] Cigarette smoking was reported as the most important risk factor for this cancer and its prevention resulted in a 50% and 23% decline in men and women respectively.[3] The risk of bladder cancer is two to four times higher in men compared to women.[4] Studies showed that the incidence increased with age with a peak in the sixth decade of life. Risk of bladder cancer was shown to be greater in male tractor-trailer drivers, metal and plastic molding and casting machine operators, fabricators, assemblers, and hand workers; and among female sales workers and health service workers.[5] The objective of this study was to determine the frequency of bladder cancer in Fars Province, southern Iran.

From April 2002 to April 2006, all bladder cancer patients diagnosed in Fars Province, southern Iran were enrolled. In a population based study, the pathologic data from all pathology centers of the province were collected. These data were coded according to ICD-O, classified and recorded in a computer database. All demographic data including age, gender, and residential area in the past 10 years, type and grade of tumor and any metastasis were recorded.

A total of 1440 bladder cancer patients including 1170 males (81.3%) and 269 females (18.7%) were recorded from 2002 to 2006 with an increasing trend of the cancer during this period (Figure 1). The highest and lowest frequencies were noticed in the <10 years age group and 61-70 years (28.6%) respectively (Figure 2). 75.2% of the patients were from Fars Province while 4.9%, 2.8%, 2.2% and 12.7% were referrals from Booshehr, Kohgiluye and Booyerahmad, Hormozgan, and Khuzestan and other provinces. The most common site of tumor was bladder (98.9%) while 1.1% were located in the ureter. Transitional cell carcinoma (TCC) was the most prevalent morphology (807 cases, 56%) followed by papillary TCC (573 cases, 39.8%). Figure 3 demonstrates the prevalence according to the grade of tumor. Grade II was the most frequent one and 99.3% of tumors were malignant while 0.7% was carcinoma in situ.

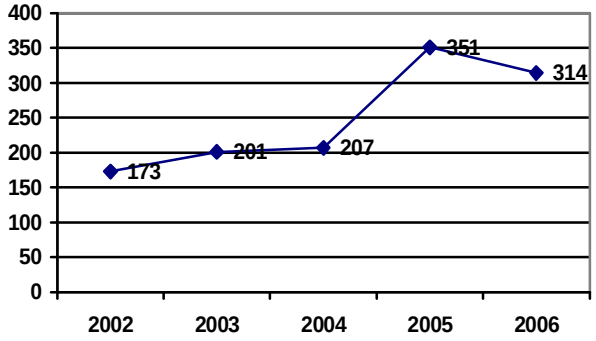

Fig. 1: Frequency of bladder cancer in Fars Province, southern Iran during 2002 to 2006

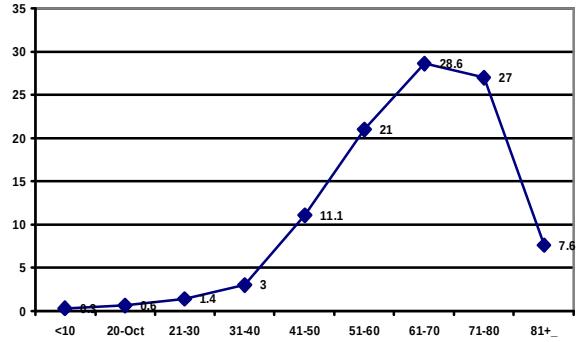

Fig. 2: Frequency distribution of bladder cancer according to age in Fars Province, southern Iran, 2002-2006

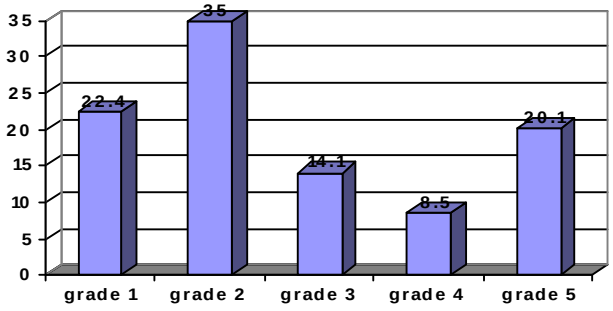

Fig. 3: Frequency distribution of bladder cancer according to grade of tumor in Fars Province, southern Iran, 2002-2006

The frequency of urinary bladder cancer cases recognized in Fars Province, southern Iran showed an increasing trend during 2002-2005 and a slight decline in 2006. This increase may be partly explained by the improvements in surveillance systems and cancer registration in the province in recent years. In contrast, Stewart *et al.* reported a decrease in bladder cancer incidence rates among men and women.[6] While this decrease only just began in men, it has been happening in women for several decades.[2]

Our study showed that 81.3% of all bladder cancer patients were male while only 18.7% were female. Similarly in USA, the incidence of urinary bladder cancer was approximately four times higher in men when compared to women.[6] Identically Sano *et al.* found that bladder cancer risk was also higher in males compared to females.[7] This large variation may be attributed to the difference in environmental and occupational exposures between males and females.[8] Hormonal factors may also be partly responsible for the gender differences in bladder cancer rates.[9] A study in Spain, however, found that male-to-female incidence ratio decreased from 8.2 to 1.7 when the effect of cigarette smoking on bladder cancer was eliminated. The authors suggested that most of the difference between male and female bladder cancer incidences is due to cigarette smoking rather than occupational/environmental exposures to other bladder carcinogens.[10]

The frequency of urinary bladder cancer in our study increased with age and was highest in the 61-70 years age group but it dropped after the age of 70 years. Incidence rates in USA also increased with increasing age, but the peak occurred among persons aged ≥80.[6] We found that transitional cell carcinoma (TCC) was the most prevalent morphology. According to Stewart *et al.*, when subjects with known tumor characteristics were investigated, the majority of urinary bladder cancer cases were transitional cell carcinomas.[6]

Our results showed that similar to many studies, the frequency of bladder cancer increased with age and was higher in men while TCC was the most common type. Health authorities should take this into consideration for future planning.

Keywords: Trend; Bladder cancer; Southern Iran

Conflict of interest: None declared.

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