Mini Review-Bladder Cancer (Urological Disorder)

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Authors’ contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Bladder cancer is most common urological disorder. It occurs in any age group. It is common in male rather than female. Bladder cancer have some causal factors. This review focus on bladder cancer causal factor, symptom, Diagnostic test and treatment.

Keywords: Bladder cancer; urological disorder; diagnostic test.

1. INTRODUCTION

A bladder cancer is the most common disorder of the urinary tract with approximately 380,000 new cases and 150,000 patient die per year worldwide [1], approximately 68,000 adults are die in the United States each year. Bladder cancer disorder is more common in men than it does in women and usually affects older adults, though it can occure at any age [2]. The median age of detection of bladder cancer is 65 years. Although rarely diagnosed before the age of 40, primary bladder cancer, including transitional-cell carcinoma, has been reported in adolescents. Tumors in young adults tend to be well differentiated and indolent in nature [3].
Fig. 1. Malignant tumor [10]

Types of bladder cancer include [2]:

- **Urothelial carcinoma**: A urothelial carcinoma is previously called transitional cell carcinoma, because it occurs in the cells that line the inside of the bladder. The urothelial cells are expand when your bladder is full and contract when your bladder is empty. These same urothelial cells line is the inside of the ureters and the urethra, and tumors can form in those places as well. A urothelial carcinoma is a very common type of bladder cancer in the United States.

- **Squamous cell carcinoma**: The squamous cell carcinoma is associated with a chronic irritation of the bladder, for instance from an infection or from long-term use of the urinary catheter. The squamous cell bladder cancer is rare in the United States and it is more common in parts of the world where a certain parasitic infection (schistosomiasis) is a common cause of bladder infection.

- **Adenocarcinoma**: The adenocarcinoma begins in cells that make up mucus-secreting glands in the bladder. Adenocarcinoma of the bladder is rare in the United States or less than other urinary disorders.

2. SYMPTOMS OF BLADDER CANCER [4]

Many people with bladder cancer can have blood in their urine but no pain while urinating. There are a number of symptoms that might indicate bladder cancer like fatigue, weight loss, and bone tenderness, and these can indicate more advanced disease. You should pay particular attention to the following symptoms:

- blood in the urine
- painful urination
- frequent urination
- urgent urination
- urinary incontinence
- pain in the abdominal area
- pain in the lower back

3. CAUSE OF BLADDER CANCER

The following factors may increase risk of developing bladder cancer in human [5]:

- **Use of Tobacco**: The cigarette smoking is most common risk factor, although smoking cigars and pipes can also raise the risk of developing bladder cancer. The smokers are 4 to 7 times more likely to develop bladder cancer than nonsmoker person.

- **Age**: According to observation, the chances of being diagnosed with bladder cancer increases with age. More than 70% of people with bladder cancer are older than 65.

- **Gender**: Men are 4 times more susceptible to bladder cancer than women, but women are more likely to die from bladder cancer than men.
• **Race:** The black people are diagnosed more with bladder cancer than other people, but black people are twice as likely to die from the disease.

• **Chemicals:** The chemicals used in the textile, rubber, leather, dye, paint, and print industries; the aromatic amines can increase the risk of bladder cancer.

• **Chronic bladder problems:** The bladder stones and infections may increase the risk of bladder cancer. Bladder cancer may be more common in paralyzed people from the waist down who are required to use urinary catheters and have had many urinary infections.

• **Cyclophosphamide use:** In the people who have had chemotherapy with cyclophosphamide have a higher risk of developing bladder cancer.

• **Pioglitazone (Actos) use.** In 2011, the U.S. FDA warned that people who have taken the diabetes drug pioglitazone for more than 1 year may have a higher risk of developing bladder cancer.

• **Personal history.** People who have already had bladder cancer once are more likely to develop the bladder cancer again.

• **Lynch syndrome.** Lynch syndrome is inherited disease, previously called hereditary non polyposis colorectal cancer or HNPCC, may have an increased risk of developing bladder cancer.

### 4. EVALUATION TEST FOR BLADDER CANCER

#### 4.1 Diagnosis [6]

• Hematuria is the presenting symptom in 90% of patients with bladder cancer. Hematuria may be gross or microscopic, and thus all patients with unexplained microscopic hematuria should undergo full urologic evaluation.

### 5. TESTS FOR BLADDER CANCER [7]

• **Cystoscopy:** Cystoscopy is used to observe the internal side of the bladder and urethra. The cystoscope finds out the signs of disease.

• **Biopsy.** During cystoscopy, the doctor may pass a special tool through the scope and into your bladder to collect a cell sample for testing. This procedure is sometimes called transurethral resection of bladder tumor.

• **Urine cytology.** A sample of your urine is analyzed under a microscope to check for cancer cells in a procedure of urine cytology.
6. DETERMINING THE EXTENT OF THE CANCER

After confirming bladder cancer, doctor may recommend additional tests to determine whether your cancer has spread to patient's lymph nodes or to other areas of your body.

The test are as follows

- CT scan
- Magnetic resonance imaging (MRI) scan
- Bone scan
- Chest X-ray

7. URINARY MARKER FOR BLADDER CANCER [8]

- Fluorescence in situ hybridization
- Microsatellite analysis
- Immunocytfm
- Telomerase
- Hyaluronic acid and Hyaluronide
- BTA TRAK™ and BTA-stat™
- Nuclear matrix protein 22
- BLCA 4
- Cytokeratin
- Survivin

7.1 Treatment [9]

Treatment for bladder cancer depend on a number of factors, grade of the cancer and stage of the cancer, which are taken into consideration along with patient’s overall health and treatment preferences.

Bladder cancer treatment include [13-17]:

- Surgery: To remove the cancerous tissue.
- Chemotherapy in the bladder: To treat tumors that are confined to the lining of the bladder but have a high risk of recurrence or progression to a higher stage
- Reconstruction: To create a new way for urine to exit after removal of urinary bladder.
- Chemotherapy for the whole body: To increase the chance for a cure in a person having surgery to remove the bladder, or as a primary treatment in cases where surgery is not possible.
- Radiation therapy [11]: To destroy cancer cells, often as a primary treatment in cases where surgery is not useful.

- Immunotherapy [12]: To trigger the body’s immune system to fight against cancerous cells, either in the bladder or throughout the body.

7.2 Bladder Cancer Surgery

- Transurethral resection of bladder tumor (TURBT)
- Cystectomy
- Neobladder reconstruction
- Ileal conduit
- Continent urinary reservoir

7.3 Chemotherapy

- Radiation therapy
- Immunotherapy

8. CONCLUSION

In this review we have made an attachment to compile general information on bladder cancer. It shows some causal factor to develop the bladder cancer. Bladder cancer can treated by surgery, radiation therapy, immunotherapy.

CONSENT

It is not applicable.

ETHICAL APPROVAL

It is not applicable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

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