

# Bladder cancer

Bladder cancer is a malignant change in the urinary bladder. Over 90 per cent of all cases of cancer of the bladder develop from the mucous membrane inside the bladder, called the urothelium. As is the case with many forms of cancer, the development of bladder cancer is not initially accompanied by pain. A typical symptom of bladder cancer is blood in the urine (haematuria), which is often pain-free.

Bladder cancer is a disease of the elderly. It accounts for about 4.6 per cent of all new malignant cancers in men and two per cent in women.

The causes of and risk factors for developing bladder cancer

Chronic bladder infection increases the risk of developing bladder cancer. The most important environmental risk factor for the development of bladder cancer is smoking. After lung cancer, bladder cancer is the second most common cancer linked to smoking. Occupational contact with various chemicals may also result in bladder cancer.

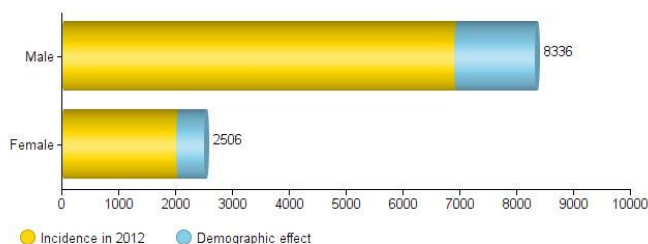
## Egypt Bladder cancer

Year	Estimated number of new cancers (all ages)	Male	Female	Both sexes
<b>2012</b>		6902	2021	8923
	ages < 65	3421	958	4379
	ages >= 65	3481	1063	4544
<b>2020</b>		8336	2506	10842
	ages < 65	4007	1101	5108
	ages >= 65	4329	1405	5734
<b>Demographic change</b>		1434	485	1919
	ages < 65	586	143	729
	ages >= 65	848	342	1190

GLOBOCAN 2012 (IARC) - 24.1.2017

Population forecasts were extracted from the *United Nations, World Population prospects, the 2012 revision*. Numbers are computed using age-specific rates and corresponding populations for 10 age-groups.

International Agency for Research on Cancer  
 Egypt  
 Bladder  
 Number of new cancers in 2020 (all ages)



GLOBOCAN 2012 (IARC) (24.1.2017)  
 GLOBOCAN 2012 (IARC) (24.1.2017)

## **Role of lifestyle play in bladder cancer**

Smoking is the greatest risk factor for bladder cancer. After lung cancer, bladder cancer is the second most common cancer linked to smoking.

*GLOBOCAN 2012 (IARC) - 24.1.2017*

Population forecasts were extracted from the *United Nations, World Population prospects, the 2012 revision*. Numbers are computed using age-specific rates and corresponding populations for 10 age-groups.

## **Diagnoses of bladder cancer**

A typical symptom of bladder cancer is blood in the urine (haematuria), which is often painless.

This is in contrast to something called haemorrhagic cystitis, for example - a bladder infection with blood in the urine that commonly occurs in young women and is associated with considerable pain on urination.

If a patient has blood in the urine, this requires urgent investigation by a specialist, in this case a urologist.

The most important diagnostic investigations are as follows:

- Investigation of the urine (urinalysis)
- Ultrasound investigation
- Cystoscopy (imaging of the bladder), possibly with the aid of fluorescent dyes  
If a tumour is found, the type and penetration depth of the tumour will be assessed.
- Computed tomography and urography (x-rays using contrast media)

The tumour will be investigated to discover whether it has spread to surrounding tissue or has affected other organs.

## **Bladder cancer treatment**

The treatment for bladder cancer depends on its location and spread. Cancer of the bladder that has not invaded the muscle may be surgically removed through the urethra using an endoscope. This operation is known as transurethral resection. Non-muscle-invasive bladder cancer has a high rate of recurrence, in other words another tumour will develop in the bladder at some point after surgery in up to 70 per cent of all cases. For this reason, the bladder is often flushed with a drug after transurethral resection (intravesical instillation). A catheter is used to introduce the drug into the bladder where it acts on the mucous membrane and areas vulnerable to tumours. This reduces the risk of recurrence of the cancer.

The aim of the instillation therapy is to kill any cancer cells that may be present locally in the bladder.

If the cancer has penetrated/grown into the muscle, in other words, if it is invasive, the bladder is removed completely.

## **Additional information: bladder cancer – classification of tumour type and tumour stage**

A good 70% of all tumours in the bladder are what are known as non-muscle-invasive tumours at the time of diagnosis. This means that their growth is restricted to the mucous membrane and the layer of connective tissue situated immediately beneath it (lamina propria).

If the bladder cancer has already penetrated the deeper layers of the bladder and hence the muscle layer, it is known as muscle-invasive bladder cancer.

The clinical situation is even further advanced if metastases have already occurred.

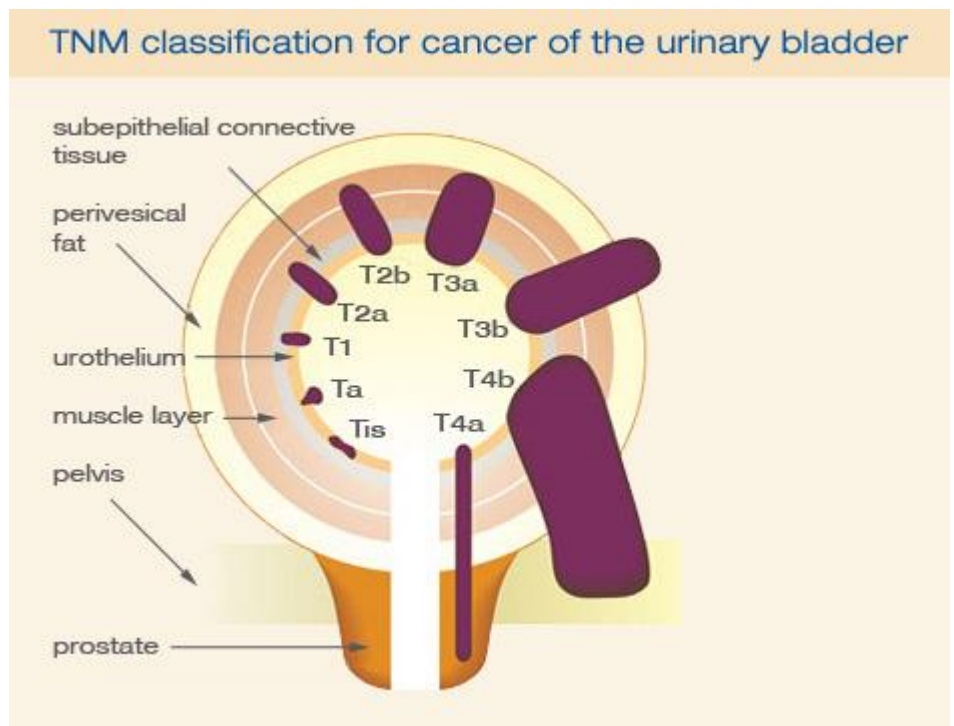
Distinctions are made between three stages of bladder cancer depending on the clinical picture:

1. non-muscle-invasive bladder cancer
2. muscle-invasive bladder cancer
3. metastatic bladder cancer

Classification of tumour spread is undertaken using the TNM system. T stands for Tumour, N for lymph Nodes and M for Metastases.

The size of the tumour is described using the terms Ta and T1-T4.

The terms "TIS" (tumour in situ) or "CIS" (carcinoma in situ) describe a special form of bladder cancer. This is a tumour that spreads horizontally, rather than vertically. All Ta and T1 tumours, as well as TIS/CIS, are non-muscle-invasive bladder tumours.



T – Primary tumour

TX Primary tumour cannot be assessed

T0 No evidence of primary tumour

Ta Non-invasive papillary carcinoma

Tis Carcinoma in situ: "flat tumour"

T1 Tumour infiltrates subepithelial connective tissue

T2 Tumour infiltrates musculature:

T2a Tumour infiltrates superficial muscle layer (inner half)

T2b Tumour infiltrates deep muscle layer (outer half)

T3 Tumour infiltrates perivesical tissue:

T3a microscopically

T3b macroscopically (extravesical mass)

T4 Tumour infiltrates one of the following organs:

prostate, seminal vesicle(s), uterus, vagina, pelvic wall, abdominal wall

T4a Tumour infiltrates prostate, seminal vesicle(s), uterus or vagina

T4b Tumour infiltrates pelvic wall or abdominal wall

N – Regional lymph nodes

NX Regional lymph nodes cannot be assessed

N0 No evidence of metastases in regional lymph nodes

N1 Metastasis/es in single lymph nodes of the true pelvis  
(hypogastric, obturator, external iliac or presacral lymph nodes)

N2 Metastasis/es in multiple lymph nodes of the true pelvis  
(hypogastric, obturator, external iliac or presacral lymph nodes)

N3 Metastasis/es in the lymph nodes of the common iliac artery

M – Distant metastases

M0 No evidence of distant metastases

M1 Distant metastases