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FREEPHONE 0800 543 639

Kidney Cancer

What is kidney cancer?

There are several types of kidney cancer. The most common is renal cell carcinoma. Other types of kidney cancers include transitional cell carcinomas (arising in the pelvis of the kidney), Wilms' tumours (a tumour occurring in children), renal sarcoma (a rare form of kidney cancer), renal adenomas (small low-grade tumours), oncocytomas and angiomyolipomas (both benign tumours of the kidney).

As with all cancers, kidney cancers begin small and grow larger over time. Kidney cancers usually grow as single masses, and more than one tumour may be present, in either one or both kidneys. Some kidney cancers can spread (metastasise) through the blood stream or lymph vessels to other parts of the body. If this occurs, kidney cancer can be difficult to treat.

How often does kidney cancer occur?

Kidney and urinary tract cancers account for 22 percent of all cancers. They include cancers of the kidney, bladder, prostate and testis. Approximately 2.5 percent of all cancers are cancers of the kidney, and they rank as the 10th most common cause of cancer in men and women. Kidney cancer occurs twice as often in males than in females.

What are the risk factors for kidney cancer?

Certain risk factors have been determined that may increase the likelihood of a person developing kidney cancer.

These include:

- Smoking: smoking doubles the risk of developing renal cell carcinoma
- Family history: some people inherit a genetic predisposition that increases the risk of developing kidney cancer.
- Diet and weight: some studies indicate that people who are overweight and eat a high fat diet may be at greater risk of developing kidney cancer.
- Age: kidney cancers generally occur in people aged between 50–70 years.
- Gender: kidney cancer is twice as common in men than women.
- Long-term kidney failure: some people with chronic kidney failure who have dialysis treatment over a long period of time may develop kidney cysts. Kidney cancer may develop from cells that line these cysts.

What are the signs and symptoms of kidney cancer?

The most common signs and symptoms of kidney cancer include:

- Blood in the urine (also called haematuria)
- High blood pressure
- Persistent low back pain (not associated with injury)
- A mass or lump detected in the abdominal area
- Continuous fatigue
- Rapid, unintentional weight loss
- Fever (not associated with any other conditions)
- Swelling of extremities (ankles, legs and wrists)

Many of these symptoms are non-specific and may relate to a non-cancerous kidney or urinary tract problem. Always seek your doctor's advice for an accurate diagnosis of any medical condition.

How is kidney cancer detected?

As kidney cancers can become quite large without causing any pain or discomfort, they are often diagnosed at a late stage. Because the kidneys lie deep in the body, kidney cancer cannot be seen or detected during a routine physical examination. Many kidney cancers are detected accidentally during tests for other medical conditions.

If there is reason to suspect that a person has kidney cancer, a number of tests will be performed.

These include:

Urine tests: to detect the presence of abnormalities in the urine (eg blood, protein, cancer cells)

- Blood tests: to detect changes in the blood associated with kidney cancer and kidney disease
- Computer tomography (CT) scans: a modified x-ray that takes images of the body at different angles then combines them to produce a detailed cross-section of the body.
- Magnetic resonance imaging (MRI): another means of producing cross-sectional images of the body using magnets and radio waves.
- Ultrasound: uses sound waves to detect abnormalities in the body. This test is useful in determining whether a kidney abnormality is a fluid-filled cyst or a solid tumour.
- Intravenous pyelogram (IVP): an x-ray procedure in which a contrast dye is injected into a vein to map its passage through the kidney and into the urine.
- Cystoscopy: a test that checks the bladder and urethra for possible cancers using a tube with a lens and a light placed into the bladder through the urethra.

How do doctors determine how far a kidney cancer has spread?

Staging is the term used to describe the process that determines how widespread a cancer is (whether it is just in the kidney or if it has metastasised, or spread, to other parts of the body). The type of treatment selected will be determined by the stage of the cancer. Tests to determine staging include CT or MRI tests, bone scans, x-rays and blood tests. Stage I kidney cancer is the least serious or earliest stage (the cancer is small and is contained within the kidney tissue), and Stage IV is the most serious or advanced stage (the cancer is large and has spread to other parts of the body).

How is kidney cancer treated?

The five types of treatment for kidney cancer are:

- 1 Surgery: removal of either the cancer and/or whole or part of the diseased kidney during an operation. Surgery is usually followed by other therapies.
- 2 Chemotherapy: use of high potency anti-cancer drugs to kill cancer cells.
- 3 Radiation therapy: use of high-energy radiation (x-rays) to kill cancer cells.
- 4 Immunotherapy: boosting the body's immune system to more effectively fight the cancer.
- 5 Hormone therapy: use of hormones to prevent cancer cells from forming.

Each treatment has certain benefits and side effects which should be discussed with your doctor when deciding which treatment is most suitable for you, according to your age, health, personal preference and cancer stage.

What happens after treatment for kidney cancer?

Following treatment for kidney cancer, you will have certain tests and procedures performed based on the stage and response to treatment of the original cancer. Your doctor will recommend the frequency of these tests. It is important to report any new symptoms to your doctor as soon as possible. If you are a smoker, it is important to quit, as this can reduce the chance of developing a new cancer, as well as improving your general health.