ANGPTL4 as prognostic marker for bladder cancer

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Technology description

Researchers at UT Health SA have discovered a less invasive method to monitor for recurrence of bladder cancer. Using Angiopoietin-like 4 protein (ANGPTL4) as a prognostic indicator, clinicians would be able to use a urine sample to monitor the likelihood of recurrence of non-muscle invasive bladder cancer.

Background:

Non-muscle invasive bladder cancers make up approximately 80% of all cases. Recurrence of tumors is very common, with 50% to 90% of patients having new tumor growth after initial treatment. It is critical to catch recurrences of bladder cancer as early as possible to increase the chance of survival. The current standard of care is to perform a cystoscopy to screen for new tumor growth every three months for the first two years, then every six months for the next two years, and annually thereafter. Cystoscopy is a moderately invasive and costly procedure.

Bladder cancer as a whole is the most expensive cancer to treat due to lifelong surveillance and a high incidence of recurrence. The cost of ongoing diagnostic surveillance is estimated to be between $4,700 and $6,500 per patient, or roughly $1.2 billion to $1.6 billion in the US alone for non-muscle invasive bladder cancer patients.

The new technology correlates the quantity and cellular location of ANGPTL4 in urothelial cells to the likelihood of tumor recurrence. It is being developed as a prognostic assay to quantify the location-specific presence of ANGPTL4 in urothelial cells isolated from a urine sample.

Advantages

The invention provides an improvement over the current standard of care by providing the clinician with a minimally invasive urinalysis prognostic tool that could predict the likelihood of recurrence of tumors. It has the following advantage over the current procedures:

Lower cost - less expensive procedure; fewer expensive cytoscopies needed

Less invasive

Less time consuming for the patient

Ultimately, increased patient compliance and improved outcomes

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