

Wednesday, 11 February 2009

## Prostate cancer urine test hope

Prostate cancer is a major killer

US scientists have moved a step closer to a simple urine test to distinguish between the benign and aggressive forms of prostate cancer.

Some prostate cancers are slow-growing, while others require rapid treatment.

But telling them apart can be difficult and some patients undergo unnecessary surgery or radiation treatment.

The latest study, published in *Nature*, links a group of small molecules produced by the body to the aggressive form of the disease.

It raises the possibility of telling the difference between the type of cancer that does no harm - which we term 'the pussycat' - from the type that does - which we call 'the tiger'

Professor Malcolm Mason

University of Cardiff

In theory, testing for their presence should enable doctors to determine whether a patient has an aggressive form of prostate cancer - and requires urgent action.

In contrast, patients with benign prostate cancer often end up dying of other conditions because their tumours are so slow to develop.

However, the researchers, from the University of Michigan, have stressed their work is still at an early stage, and a test is still around five years away.

Prostate cancer is the most common cancer in men in the UK, with well over 30,000 new cases diagnosed each year.

Lead researcher Professor Arul Chinnaiyan said: "One of the biggest challenges we face in prostate cancer is determining if the cancer is aggressive.

"We end up over-treating our patients because physicians don't know which tumours will be slow-growing.

"With this research, we have identified a potential marker for the aggressive tumours."

Sample analysis

The researchers examined 1,126 molecules produced by the body in a total of 262 samples of tissue, blood or urine.

They pinpointed about 10 molecules - or metabolites - that were more often present

in samples taken from patients with advanced cancer.

One metabolite in particular, sarcosine, was often found at elevated levels in samples taken from patients with advanced cancer, or cancer that had spread, but not at all in samples taken from healthy tissue.

In fact, sarcosine was a better indicator of advancing disease than the traditional marker, a protein called prostate specific antigen.

The research suggests that sarcosine plays a role in helping cancer to spread, and may be a potential target for future new drugs.

Professor Malcolm Mason, a cancer expert at the University of Cardiff, said: "This result is extremely interesting.

"It raises the possibility of telling the difference between the type of cancer that does no harm - which we term 'the pussycat' - from the type that does - which we call 'the tiger'.

"If we are able to distinguish the tiger from the pussycat it could make a real difference."

John Neate, of The Prostate Cancer Charity, said: "It is too soon to say if the results of this study are a blind alley or a breakthrough but so far results are promising enough for research to continue and could lead to the development of a new test for prostate cancer."