

## Virus helps show cancer spread



A cold virus was used to "infect" prostate cancer cells

**Scientists have used a common cold virus to "light up" prostate cancer tumours in different parts of the body.**

It could make it easier for doctors to track the spread of the disease, and check the effectiveness of treatment.

A University of California at Los Angeles team found the virus "infected" prostate cancer cells in mice, then made them visible to scanners.

UK experts welcomed the Nature Medicine study, and said a more sensitive scan would be "very valuable".

**“ We now know we can reach these prostate cancer metastases at an earlier stage than before ”**

Dr Lily Wu  
UCLA

If a cancer has spread beyond the original site - a process called metastasis - it usually means that treatment has to be far more aggressive, and reduces the chance of a cure.

However, in some cancers, including prostate, the most common cancer in men, it can be hard to detect these new tumours using conventional scanning.

This can mean that some patients do not get aggressive treatments quickly enough, or that others are given powerful treatment they do not actually need.

One of the first signs of metastasis in prostate cancer is tumours in the tiny lymph nodes in the pelvis.

Lymph nodes are part of the immune system, filled with cells which trap invading bacteria and viruses.

Common cold viruses, or adenoviruses, circulating in the body, tend to end up at these nodes.

### **Lighting up cancers**

The UCLA team, led by Dr Lily Wu, used a virus modified to go to work only when inside a prostate cancer cell.

Once inside, they expressed a protein which could be shown up on a PET scan, which meant that even relatively small prostate cancer tumours within a node would be more easy to identify.

Dr Wu said: "We now know we can reach these prostate cancer metastases at an earlier stage than before, and we know we can deliver genes to those cancer cells that produce proteins that can be imaged."

The technique could help doctors plan treatments, she said, and see quickly if they were effective at killing cancer cells.

However, her eventual aim is to add an extra payload to the cold virus - which would aim to target prostate cancer cells and help destroy them.

Dr Chris Parker, a prostate cancer researcher, based at the Institute of Cancer Research, said: "A more sensitive method for detecting prostate cancer spread would be very valuable, as the current methods for detecting smaller prostate cancer deposits in the lymph nodes are limited.

"The initial findings of this study in mice suggest this approach might detect very early signs of cancer spread, before it is apparent on conventional scans.

"This new method - using a virus that is transported to prostate cancer in the lymph nodes, and which carries a marker gene that can be detected on imaging - is very interesting, but further development work is needed before the technique will be ready for testing in humans."