

Scientists find 'root' of cancer

By Charlie Cooper

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Scientists have found the first "conclusive evidence" of the existence of cancer stem cells in humans, in a discovery which could put an end to years of scientific controversy and pave the way for more effective cancer treatments which could attack the disease "at the root".

Researchers at Oxford University and Sweden's Karolinska Institutet said that their findings were "a vitally important step" in our understanding of how cancers developed and how best to treat them.

The existence of cancer stem cells - mutated stem cells responsible for the development and growth of cancers - has been hypothesised for decades, and their existence in mice was established two years ago.

Whether or not they are also responsible for the growth of cancers in humans has remained controversial.

However, in a new study published in the journal *Cancer Cell*, researchers said they had tracked gene mutations responsible for a form of blood cancer back to a distinct set of cells which they say are at the root of the cancer's spread.

Experts believe the theory of cancer stem cells may be of great importance for future treatments. It suggests that at the root of any cancer are a set of cells responsible for its growth.

In theory, if treatments could be developed to specifically target these cells, then a cancer could be eradicated altogether.

Dr Petter Woll, of the Weatherall Institute for Molecular Medicine at the University of Oxford, said: "If we can eliminate the cancer stem cells, it would be like removing a tree by the roots - it won't grow back, like it would if you removed it by the stem."

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