High risk oesophageal cancer gene discovered

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New research from Queen Mary, University of London has uncovered a gene which plays a key role in the development of oesophageal cancer (cancer of the gullet).

The researchers studied families who suffer a rare inherited condition making them highly susceptible to the disease and found that a fault in a single gene was responsible.

Initial studies suggest that the gene could play a role in the more common, non-inherited form of the disease, revealing a new target for treating this aggressive type of cancer.

Oesophageal cancer affects more than 8,000 people each year in the UK and rates are rising. It is more common in the UK than anywhere else in Europe.

Survival rates are poor compared to other types of cancer with only eight per cent of people alive five years after diagnosis. Scientists know little about how oesophageal cancer develops and very few drugs for targeting the disease are currently available.

The new study was led by Professor David Kelsell from Queen Mary, University of London with collaborators from the University of Dundee and the University of Liverpool.

The research concentrated on three families with a hereditary condition called tylosis with oesophageal cancer. This condition affects the skin

and mouth and sufferers have a 95 per cent chance of developing oesophageal cancer by the age of 65.

The research revealed that all three families carried a faulty version of a gene called RHBDF2.

Experiments showed that this gene plays an important role in how cells that line the oesophagus, and cells in the skin, respond to injury. When the gene is functioning normally it ensures that cells grow and divide in a controlled fashion to help heal a wound.

However, in tylosis patients' cells, and in cells from oesophageal cancers, the gene malfunctions. This allows cells to divide and grow uncontrollably, causing cancer.

Professor Kelsell explains: "In studying this relatively rare condition, we have made an important dicovery about a cancer that is all too common. Finding a genetic cause for this aggressive cancer, and understanding what that gene is doing, is an enormous step forward.

"By analysing the complex biology which causes a particular type of cancer we begin to understand which treatments might be effective and also which treatments are unlikely to help."

Provided by Queen Mary, University of London