Key gene in deadly head and neck cancers revealed

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Monash researchers have made the first real breakthrough in 50 years in understanding how cancers of the head and neck develop, shedding new light on one of the most deadly forms of the disease.

The study, published this week in the prestigious *Journal of the National Cancer Institute*, revealed for the first time how squamous cell cancers (SCC) grow, and identified a gene critical to their development.

"Disruption of this key gene sets up a pathway of changes in cells in the

mouth and oral cavity that induces rapid cell growth, the hallmark of cancer," said lead researcher, Professor Stephen Jane, head of Monash University's Central Clinical School.

More than 3,000 Australians are diagnosed with squamous cell cancers each year, and almost a third of those cases prove fatal. The cancer mostly affects smokers, with tumours developing in the mouth and on the tongue, pharynx and larynx.

At least 75 per cent of patients in whom SCC is caught early are still alive five years after diagnosis.

However, just 15 per cent survive when the disease is only identified at an advanced stage. Professor Jane's discovery opens the way to identifying patients who may be candidates for more targeted therapies – so-called 'personalised medicine'.

"Excitingly, some of these signals are already the targets of therapies in other cancers, raising the possibility that this could translate into meaningful outcomes in patients with head and neck cancers in a relatively short time frame," he said.

Professor Jane said drug trials in model systems are already underway and showing promising results.

Provided by Monash University