

# Lung cancer: 'Artificial airway' transplant is world first

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French doctors said on Thursday they were delighted at a medical first in which a 78-year-old man was given a section of artificial airway to save a lung afflicted by bronchial cancer.

The bronchi are the main tubes for taking air from the trachea to the two sides of the lung.

In cases of early, non-metastasizing cancer of the bronchus, surgeons typically remove a whole lung, as well as the bronchus itself, if the tumour is located in the centre of the organ.

In more than a quarter of cases, this leads to death within three months of the operation.

A team led by thoracic and vascular surgeon Emmanuel Martinod removed the diseased part of the bronchus and grafted a replacement, thus saving the lung.

The transplant, carried out in a three-hour on October 28 2009, entailed a small metal tube-shaped frame, or stent, which supported a section of artery taken from a deceased donor and frozen in a tissue bank.

The advantage of aortal tissue is that it does not require anti-rejection drugs, which are not recommended for cancer patients, whose weakened immune system is less able to combat infection.

"The patient is doing very well," Martinod, a professor at the Avicenne Hospital in eastern Paris, told a press conference.

"He needs regular monitoring, but he's doing fine, he's walking, he goes to his house in the country."

The patient "has the respiratory capacity of an 80-year-old man with a history of smoking," he said.

Alain Carpentier, a professor of bio-surgery who is also president of France's Academy of Sciences, said the tissue regrowth was "magical."

"The bronchus is regenerating," he said, explaining that the transplanted aortal tissue had become a "matrix" which was now being recolonised by bronchial cells.

They were rebuilding the epithelium, a mucal lining of the bronchus that cleanses the airways.

The surgery culminated 10 years of research.

Between 20 and 30 similar operations are being scheduled in an investigation to see whether the transplant should be enlisted in routine surgery for treating this form of lung cancer.

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