# Lung cancer rising, but not from smoking

Chinese health authorities are trying to figure out the reason for the rapid rise in a form of lung cancer that develops deep in the lung and is not associated with smoking.

China has seen a sharp increase in the disease over the past 10 to 15 years, hitting groups traditionally not susceptible such as women and nonsmokers, said Xue Qi, deputy director of thoracic surgery at the Cancer Hospital Chinese Academy of Medical Sciences, also the country's National Cancer Institute.

"It might be related to the long-term exposure to air pollution, particularly PM2.5," he said, referring to particulate matter with a diameter of 2.5 microns or less.

China's top health authority has been watching people's health in relation to air pollution since 2013, said Mao Qun'an, spokesman for the National Health and Family Planning Commission.

"We need more research over a longer time to figure out the long-term health effects of air pollution," he said. "Cancer is developed over a long period, not overnight."

Latest cancer statistics from the government showed China recorded nearly 4.3 million new cancer patients in 2015, and more than 730,000 of them had lung cancer, accounting for nearly 36 percent of the world's total.

There are two major types of lung cancer – lung adenocarcinoma and squamous cell carcinoma, experts said. The latter is closely associated with smoking.

Of newly detected lung cancer patients each year, the cases of adenocarcinoma – involving more females and nonsmokers have exceeded that of smoking-related carcinoma, even though the smoking rate in China has not declined, Xue said, citing figures from the nation's cancer registry.

Ten to 15 years ago, squamous cell carcinoma took the lion's share of all lung cancer cases, roughly 60 percent, he said. "At that time, most of the sufferers were smoking males, who are at high risk."

The incidence of lung cancer has surged in recent decades.

For instance, in the 1960s the incidence of lung cancer in Guangzhou, Guangdong province, stood at 7 per 100,000 people. That surged to 70 per 100,000 in 2005, according to local health data.

Some lung disease experts suspect the rise might be related to PM2.5, but more research is needed to know for sure.

Xue said more government research funding and projects in the field are needed.

Internationally, small-scale studies have associated air pollution exposure with lung cancer, but a direct link has not yet been confirmed with large, long-term studies, he added.

Industrialized countries saw a rise in the proportion of adenocarcinoma before China, according to Xue, who said lung adenocarcinoma is now the most common type of lung cancer.

Squamous cell carcinoma has decreased over recent decades in Western countries due to an ever decreasing smoking population, he added.