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Rare lung disease cells indicate higher death risk

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Large numbers of certain cells in the lungs of patients diagnosed with idiopathic pulmonary fibrosis may increase their chance of death, University of Cincinnati (UC) researchers have discovered.

According to a new study, increased numbers of neutrophil (pronounced new-tro-fil) cells—a type of white blood cell—in patients' lungs were associated with a 30 percent increased risk of mortality in the first year following diagnosis with idiopathic pulmonary fibrosis (IPF).

"A measure of cell types in the lungs of IPF patients at the time of diagnosis may allow us to determine their risk of death in the following year," says Brent Kinder, MD, assistant professor of medicine at the UC College of Medicine and pulmonologist with UC Physicians.

"This even takes into account other well-known measures of disease severity like age, whether or not the patient smokes and how well his or her lung functions during breathing tests," he adds.

Kinder co-authored the study, which is featured in the January issue of the journal *Chest*, with colleagues from the University of California, San Francisco (UCSF), and National Jewish Medical Center in Denver, Colo.

IPF is scarring of the lung. As the disease progresses, air sacs in the lungs become replaced by fibrotic scar tissue. Lung tissue becomes thicker where the scarring forms, causing an irreversible loss of the tissue's ability to carry oxygen into the bloodstream.

IPF is one of about 200 disorders called interstitial lung diseases (ILDs), which affect the thick tissue of the lung as opposed to more common lung ailments—such as asthma or emphysema—that affect the airways.

It is the most common form of ILD and affects about 128,000 people in the United States, with an estimated 48,000 new cases diagnosed each year. There currently are no proven therapies or cures for IPF.

Researchers discovered the link between neutrophils and IPF outcome using bronchoalveolar lavage. The technique involves passing a bronchoscope through the mouth of the patient and into the lungs. Saline is squirted into a small part of the affected lung and then recollected for examination.

The team evaluated the cell count of 156 people with IPF at the time the disease began to make its appearance.

“With this information, we can now work to identify neutrophil cells in patients’ lungs and provide detailed information for more accurate diagnosis,” says Kinder, who is also director of the newly established Interstitial Lung Disease Center at UC.

“It is our hope that this accurate prognostic information will become even more useful as effective treatments become available.”

Source: University of Cincinnati