Recent COPD Research Findings

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COPD Research Sheds Light on Lung Function Trajectory Before and After Treatment

Although chronic obstructive pulmonary disease (COPD) is a clearly defined condition, there is still a good deal of mystery when it comes to the course of its development, and responses to treatment. You'll need to work harder to maintain the same quality of life as the disease progresses, but it can be difficult to predict how and when lung function will decline.

As research begins to focus more on the phases before diagnosis and after treatment has begun, findings may help to treat COPD earlier and more efficiently throughout the course of the disease. Two recently published studies shed more light on the nature and details of lung function decline in COPD.

A New Perspective on Age, Lung Function, and COPD Risk

COPD generally strikes later in life, and diagnosis centers tests that measure how well (or how poorly) the lungs do their job. But while declining lung function is a part of (COPD), new findings suggest that it isn't necessarily a precursor to the disease.

The development of COPD can be described as a progressive drop in lung function from a normal level. That "normal" level is tied to early adulthood, when the structures and tissues in the lungs have fully developed. A recent study out of the University of Copenhagen has looked more closely at lung function in early adulthood, and the results may change the way COPD risk is calculated – and even reduced.

What the study shows:

The published findings reveal that only about half of COPD patients experience a marked decline in lung function around the point of diagnosis, but plenty show some very specific warning signs at an earlier age. Following a large group of participants under age 40, researchers tracked the incidence of COPD in relation to lung function at the beginning of the study.

The patients were divided according to FEV1 rate (the volume of air exhaled from full lungs in the first second). There were 657 people with an FEV1 of less than 80% of the predicated value, and 2207 people with an FEV1 of at least 80% of the predicted value. After 22 years of follow-up, 26% of patients with the lower FEV1 rate (indicating lower lung function) were diagnosed with COPD, while only 7% of those with the higher FEV1 rate developed COPD.

Ultimately, the study shows that COPD doesn't always arise from a fast decline in lung function, but rather the stage is set as early as young adulthood. In turn, it becomes especially important to avoid smoking and second-hand smoke in the teenage years, and every effort should be made to treat and control childhood asthma as soon as it is diagnosed.

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Medicine Changes and Disease Progression

Managing COPD can be a complicated affair, and typically involves one or more medications to control the daily symptoms and treat exacerbations. Unfortunately, sometimes the ideal drug at one point becomes a major problem down the road, as a recent Dutch study has found.

What the study shows:

Patients who discontinue their long-term inhaled corticosteroid (ICS) could suffer the consequences of withdrawal for up to five years, including worsening lung function, airway hyper-responsiveness (AHR), and quality of life.

The researchers from Leiden University published their findings in the journal *CHEST*, outlining the various levels of decline based on the groups of patients and their different habits. For those who completely discontinued their use of ICS after the prescribed 30 month treatment, their quality of life dropped quite drastically (measured by the St. George's Respiratory Questionnaire, the Clinical COPD questionnaire, and the Medical Research Council Dyspnea Score). Lung function and AHR both dropped considerably each year, too.

The findings have led the experts to conclude that the physical benefits of ICS are only seen during the actual therapy — they do not continue after the corticosteroid is stopped. On the other hand, taking inhaled corticosteroids indefinitely could cause trouble as well, so it may not be the best course of action for COPD patients.

The leader of the team, Lisette Kunz, MD, suggests that the best way forward is to carefully evaluate each case of COPD, and make recommendation for long-term medication based on each individual's unique set of circumstances. Beginning corticosteroids should not be a universal prescription, but it should also not be discounted if your body is likely to benefit more than it will suffer.

The Takeaway

COPD tends to have a personalized course, and though your doctor can tailor a particular treatment plan to you, there may be more factors at play than you imagine. The good news is that the University of Copenhagen study suggests that examination and intervention for COPD could take place earlier, before the disease advances and become more difficult to treat.

As for the findings from the Leiden University team, there's a concern that the sample size may be too small to draw solid conclusions, but it also raises an important point about close consideration of medication at the beginning of treatment for long-term health and happiness.