AAIR Charity
ASTHMA, ALLERGY & INFLAMMATION RESEARCH

Research Award:

Define the prognostic value of a 3-gene signature and their functions in pulmonary fibrosis

Awarded to: Xi Li Amount: £10,000

Lay summary

Pulmonary fibrosis (PF) is a serious lung disease that causes permanent scarring of the lungs. As the scarring worsens, breathing becomes increasingly difficult, making everyday activities such as walking or climbing stairs challenging. PF is becoming more common as people live longer, and cases may increase further following COVID-19 infection. Current treatments can slow the disease but cannot stop or reverse the scarring, and many patients die within a few years of diagnosis.

One of the biggest challenges in treating PF is that the disease does not affect everyone in the same way. Some people experience rapid deterioration, while others progress more slowly. Doctors currently have limited tools to predict how an individual patient's disease will develop or which treatments are most likely to help.

Our research focuses on understanding the biological processes that drive lung scarring and identifying new ways to treat the disease. We discovered that a protein called **ECM1**, produced by immune cells in the lungs, is present at higher levels in people with pulmonary fibrosis and is linked to poorer survival. We found that ECM1 helps promote the build-up and strengthening of scar tissue in the lungs. By identifying ECM1 as a key contributor to disease progression, this work opens the door to new diagnostic tests and more targeted treatments that could improve the lives and outcomes of people living with pulmonary fibrosis.