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The “unlikely culprit” worsening lung disease unequally

A bacteria might be responsible for a disease which strikes different ethnicities with different severity.



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Bronchiectasis (bron-kee-**ek**-tah-sis) is a [chronic lung disease](#) caused by widening of the airways in the lungs.

As well as making breathing more difficult and coughing more common, it can lead to repeated flare-ups of lung infections.

An international team of researchers based in Singapore has identified a bacteria, previously thought harmless in the lungs, that can be responsible for bronchiectasis flare-ups.

According to their [paper](#) in *Cell Host & Microbe*, *Neisseria* bacteria, and specifically the species *Neisseria subflava*, worsens bronchiectasis.

Neisseria are known to cause meningitis and gonorrhoea, but while they'd been found in lungs, they've previously not been thought to cause infections.

“This discovery is significant because it can change how we treat our bronchiectasis patients with this bacterium,” says senior author Professor Sanjay Chotirmall, a researcher from the Lee Kong Chian School of Medicine at Nanyang Technical University, Singapore.

While it affects people of every age and ethnicity, bronchiectasis prevalence increases as age does, and it's up to [four times more common](#) among Asian people than white or black people.

“We hope that early identification will lead to personalised therapy, and consequently, better disease outcomes for Asian patients with this devastating disease,” Chotirmall says.

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The researchers examined the lung microbiomes of 225 bronchiectasis patients from Singapore, Kuala Lumpur, and Dundee, in Scotland.

They found that *Neisseria subflava* “dominated” the microbiome of Asian patients with worsening conditions.

They then tested this bacteria in cell cultures and mice, showing that it caused cell disruption and thus inflammation and immune dysfunction in lungs.

“It is encouraging to see that we have made headway in identifying the *Neisseria* bacteria species as the cause of worsening bronchiectasis, the unlikely culprit that was originally not considered to be a threat,” says co-author Professor Wang De Yun, from the National University of Singapore’s Yong Loo Lin School of Medicine.

“This comes as a strong reminder that we should not be too complacent when it comes to doing research and exercise more proactiveness in exploring various possibilities, as every seemingly innocent element could be a source of threat to our bodies and overall health.”

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