

Neisseria Bacteria Cause Worsening Bronchiectasis

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October 20, 2022(<https://patientworthy.com/2022/10/20/>) |  [Bronchiectasis](https://patientworthy.com/category/bronchiectasis/) (<https://patientworthy.com/category/bronchiectasis/>)

Neisseria bacteria colonize on the mucosal surfaces of many animals, including humans. In the past, researchers believed that this bacteria could only cause meningitis and gonorrhea in humans. However, shares an article in News Medical (<https://www.news-medical.net/news/20220914/Neisseria-species-are-linked-to-worsening-bronchiectasis-in-patients-study-shows.aspx>), scientists and researchers from Nanyang Technological University in Singapore recently discovered that *Neisseria* could contribute to respiratory infections and worsening symptoms. For example, the study, published in *Cell Host & Microbe* ([https://www.cell.com/cell-host-microbe/fulltext/S1931-3128\(22\)00404-8?_returnURL=https%3A%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS1931312822004048%3Fshowall%3Dtrue](https://www.cell.com/cell-host-microbe/fulltext/S1931-3128(22)00404-8?_returnURL=https%3A%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS1931312822004048%3Fshowall%3Dtrue)), determined that *N. subflava* infection caused worsening bronchiectasis symptoms in in patients of Asian descent.

Bronchiectasis may affect those of Asian descent at a rate 4x more than those of other backgrounds. Researchers sought to understand not only this prevalence, but why cases of bronchiectasis in these patients were often worse.

To begin, the research team sourced data from 225 patients of Asian descent with bronchiectasis. They also compared this data with a matched group of patients of European descent. The findings show that:

- Patients of Asian descent whose bronchiectasis was growing worse had higher levels of *Neisseria* bacteria within their microbiomes. *N. subflava* in particular was linked with more severe bronchiectasis, as well as recurrent infections.
- Testing *N. subflava* on cell and animal models confirmed that the bacteria caused immune dysfunction and inflammation.
- For patients whose condition is growing worse despite receiving treatment, doctors should consider this bacteria to be a potential cause.
- *Neisseria* was also associated with other respiratory issues, such as COPD and severe asthma.

About Bronchiectasis

Bronchiectasis (<https://patientworthy.com/bronchiectasis/>) is a rare, long-term condition in which the bronchial tubes in the lungs become permanently damaged, thickened, and/or widened. As a result, bacteria and mucus can accumulate in the lungs; it becomes harder to clear this from the body. Bronchiectasis may affect the lungs to different degrees, depending on its

severity. Around one-third of bronchiectasis cases result from cystic fibrosis. Other causes include HIV, allergic fungal lung

reactions, autoimmune disorders, inflammatory bowel disease, or alpha-1 antitrypsin deficiency. Treatment options include PEP devices, antibiotics, macrolides, physical therapy, and expectorants.

Symptoms of bronchiectasis may develop over months or years. These symptoms can (but do not always) include:

- Chest pain and/or pressure
- Shortness of breath
- Repeated colds
- Foul-smelling mucus
- A chronic cough which may produce blood or mucus
- Wheezing
- Nail clubbing
- Frequent respiratory infections
- Unintended weight loss
- Night sweats