Enhanced arginine metabolism may counteract inflammation pathways in asthma

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High arginine levels are often observed in asthmatic individuals and may support increased production of nitric oxide, which is known to worsen airway inflammation. Medications that reduce arginine availability do not effectively treat asthma, suggesting that other aspects of this condition are linked to elevated arginine metabolism.

In this month's issue of the *JCI*, research led by Serpil Erzurum at the Cleveland Clinic indicates that increased arginine levels in asthmatic individuals may support metabolic pathways that counteract airway inflammation.

Enhancing arginine metabolism in human respiratory cells led to increased cellular metabolism and reduced activation of asthma-related inflammatory pathways. In a mouse model, arginine deficiency impaired cellular metabolism and increased airway inflammation.

This study indicates that high arginine levels in asthmatic patients preserve mitochondrial function to offset increased inflammation, which suggests that this pathway is a potential target for metabolic therapies in the treatment of asthma.

More information: Increased mitochondrial arginine metabolism supports bioenergetics in asthma, *JCI*, DOI: 10.1172/JCI82925