

Gout study offers genetic insight into 'disease of kings'

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Scientists have shed light on why some people are more susceptible to gout than others. A study has identified 18 new genetic variations that increase levels of uric acid in the blood, which is the main cause of the disease. High levels of uric acid form small crystals in joints and tissues, causing pain and swelling – the main symptoms of the condition once known as the 'disease of kings'.

Gout is the most common form of [inflammatory arthritis](#), affecting up to two per cent of the world's population. Understanding how these common genetic variants increase uric acid levels in the blood may lead to improvements in the treatment and prevention of the disease. It could also help research into urate-lowering drugs.

The international team of researchers, including scientists from the University of Edinburgh and Queen Mary, University of London, say gout is becoming more common in the developed world.

They attribute its rise in part to increasing levels of obesity and an aging population.

This painful [joint inflammation](#) affects at least one in seventy adults in the UK with approximately 900,000 people suffering at least one attack of gout in their lifetime.

The work, published in [Nature Genetics](#), was carried out by analysing the genetic data of more than 140,000 people, from more than 70

individual studies from Europe, the U.S., Japan and Australia and represents the largest study worldwide on this topic.

Dr Veronique Vitart, from the Medical Research Council Human Genetics Unit at the University of Edinburgh, and one of the lead authors of the study said: "Abnormal levels of uric acid have been associated with various [common diseases](#) and conditions, but causal relationships are not always clear. Gaining insight into the [genetic components](#) of uric acid levels offers a very useful tool to tackle these issues and to further our understanding of these conditions."

Professor Mark Caulfield, from the William Harvey Research Institute at Queen Mary, and a lead author said: "Existing therapies to avoid attacks of gout sometimes cause side effects. Our findings identify new potential mechanisms for gout and offer opportunities for new therapies which may improve prevention of this debilitating condition in the future."

Provided by University of Edinburgh

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