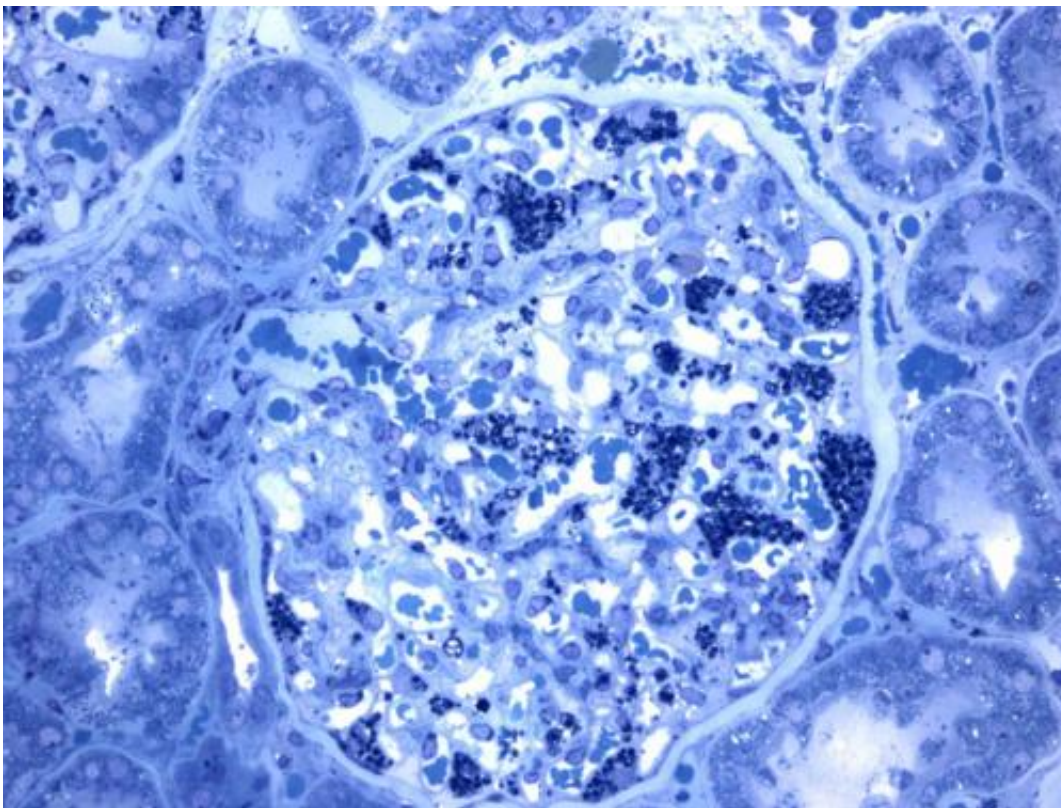


Treating a common gum condition could reduce risk of heart attacks in kidney disease patients

April 1 2015



Chronic Kidney Disease

Treating a common gum condition in chronic kidney disease (CKD) patients could significantly reduce their risk of potentially fatal heart disease, Aston University researchers say.

Over 10% of the adult population have CKD and those affected often have poor health outcomes due to an increased incidence of [cardiovascular disease](#) compared to the general population. CKD progressively worsens kidney function, raises blood pressure, and can cause progressive vascular injury and [heart disease](#).

Recent research suggests that increased mortality in people with CKD may be linked with chronic inflammatory conditions such as periodontitis, which causes gum inflammation, loss of the bone that supports the teeth and ultimately tooth loss.

Previous studies have revealed that more than 85% of people with CKD have inflammatory gum problems, caused by inadequate removal of dental plaque from between the tooth and gum margin and made worse by impaired immunity and wound healing. Experts have identified that bacteria in the mouth can enter the bloodstream through periodontal conditions, causing blood cells to malfunction and leading to clots and narrowing of the arteries.

Aston academic, Dr Irundika Dias, is leading a study into the underlying causes of increased cardiovascular disease and outcomes of accelerated progression observed in people with CKD and periodontitis. She will observe how successfully treating periodontitis reduces oxidised lipids and inflammatory cell activity in people with CKD, thereby lowering their risk of life-threatening heart disease.

Dr Dias, of Aston's School of Health and Life Sciences, said: "This project has the potential to make a real difference for people with CKD. If we can prove managing periodontitis reduces the threat of cardiovascular disease then it may well represent an efficient and cost effective treatment for CKD.

"In conjunction with our study, I will be talking to dental schools about

alternative ways of helping periodontitis [patients](#). It is vitally important to keep your gums healthy and have regular dental check-ups to avoid the onset of a disease that is very common, poorly appreciated by the public and causes tooth loss resulting in reduced quality of life."

The study will involve 80 people, including 60 people with CKD, both with and without periodontitis and healthy volunteers. This will include a group of 20 people with CKD and periodontitis who will be randomised to have the gum condition clinically treated over a 12 month period. These volunteers will be reviewed at three monthly intervals to assess markers of cardiovascular disease, such as oxidative stress biomarkers in the blood and arterial stiffness.

The project is part of a collaboration between Dr Dias and Professor Helen Griffiths of Aston's School of Health and Life Sciences, Professor Iain Chapple, Head of Periodontology at the University of Birmingham, and Professor Paul Cockwell, Consultant Nephrologist at University Hospitals Birmingham NHS Foundation Trust. This partnership has allowed Dr Dias to obtain vital samples from patients in Birmingham Hospitals from those with and without [periodontitis](#).

Provided by Aston University

Citation: Treating a common gum condition could reduce risk of heart attacks in kidney disease patients (2015, April 1) retrieved 1 May 2024 from <https://medicalxpress.com/news/2015-04-common-gum-condition-heart-kidney.html>

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