

BPA link to narrowing of the arteries

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A research team from the Peninsula College of Medicine and Dentistry (PCMD), University of Exeter, and University of Cambridge has for the first time established a link between high levels of urinary Bisphenol-A (BPA) and severe coronary artery stenosis (narrowing of the arteries).

The study is published in [PLoS ONE](#) today, 15th August 2012.

The team analysed data from 591 patients who participated in the Metabonomics and Genomics [Coronary Artery](#) Disease (MaGiCAD) study in Cambridgeshire, UK. They compared urinary BPA with grades of severity of [coronary artery disease](#) (CAD).

The patients were classified into severe, intermediate or normal CAD categories based on narrowing of their coronary arteries measured using a technique called [angiography](#), which is considered the gold standard method of diagnosis. In all, 385 patients were identified to have severe CAD, 86 intermediate CAD and 120 had normal coronary arteries.

The study shows that urinary BPA concentration was significantly higher in those with severe CAD compared to those with normal coronary arteries.

The results are important because they suggest that associations between urinary BPA and CAD may be specific to narrowing of the arteries.

This is the fourth study led by PCMD, University of Exeter to identify a statistical link between increased levels of urinary BPA and

[cardiovascular disease](#).

Other studies related to BPA carried out by the same research team have found associations with altered testosterone and changes in the expression of BPA [target genes](#) in men, suggesting that BPA may be more active in the body than previously thought.

The research team was led by Professor David Melzer, Professor of Epidemiology and Public Health at PCMD, University of Exeter. He said: "Our latest study strengthens a growing body of work that suggests that BPA may be adding to known [risk factors for heart disease](#). Full proof will be very difficult to get, as experiments on this in humans are not feasible."

Professor Tamara Galloway, lead toxicologist on the study from University of Exeter, said: "These results are important because they give us a better understanding of the mechanisms underlying the association between BPA and [heart disease](#)."

Dr. David Mosedale, Chairman of the MaGiCAD Management Committee, added: "This demonstrates the utility of intensively characterised cohorts like MaGiCAD, and highlights the need for further research into the long-term effects of common environmental chemicals such as BPA."

BPA is a controversial chemical commonly used in food and drink containers. It has previously caused concerns over health risks to babies, as it is present in some baby's bottles. Following a PCMD study in September 2008 many nations moved to ban BPA from the manufacture of baby's bottles and other feeding equipment.

BPA is used in polycarbonate plastic products such as refillable drinks containers, compact disks, some plastic eating utensils and many other

products in everyday use. It is one of the world's highest production volume chemicals, with 5.16 million tonnes produced in 2008 (source: Chemical Weekly 2009).

Provided by The Peninsula College of Medicine and Dentistry

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