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Research shows a daily does of beetroot juice can beat high blood pressure

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Researchers at Barts and The London School of Medicine have discovered that drinking just 500ml of beetroot juice a day can significantly reduce blood pressure. The study, published online today in the American Heart Association journal Hypertension, could have major implications for the treatment of cardiovascular disease.

Lead by Professor Amrita Ahluwalia of the William Harvey Research Institute at Barts and The London School of Medicine, and Professor Ben Benjamin of Peninsula Medical School, the research reveals that it is the ingestion of dietary nitrate contained within beetroot juice - and similarly in green, leafy vegetables - which results ultimately in decreased blood pressure. Previously the protective effects of vegetable-rich diets had been attributed to their antioxidant vitamin content.

Professor Ahluwalia and her team found that in healthy volunteers blood pressure was reduced within just 1 hour of ingesting beetroot juice, with a peak drop occurring 3-4 hours after ingestion. Some degree of reduction continued to be observed until up to 24 hours after ingestion. Researchers showed that the decrease in blood pressure was due to the chemical formation of nitrite from the dietary nitrate in the juice.

The nitrate in the juice is converted in saliva, by bacteria on the tongue, into nitrite. This nitrite-containing saliva is swallowed, and in the acidic environment of the stomach is either converted into nitric oxide or re-enters the circulation as nitrite. The peak time of reduction in blood pressure correlated with the appearance and peak levels of nitrite in the

circulation, an effect that was absent in a second group of volunteers who refrained from swallowing their saliva during, and for 3 hours following, beetroot ingestion.

More than 25 per cent of the world's adult population are hypertensive, and it has been estimated that this figure will increase to 29 per cent by 2025. In addition, hypertension causes around 50 per cent of coronary heart disease, and approximately 75 per cent of strokes. In demonstrating that nitrate is likely to underlie the cardio-protective effect of a vegetable-rich diet, the research of Professor Ahluwalia and her colleagues highlights the potential of a natural, low cost approach for the treatment of cardiovascular disease – a condition that kills over 110,000 people in England every year.

Professor Ahluwalia said: " Our research suggests that drinking beetroot juice, or consuming other nitrate-rich vegetables, might be a simple way to maintain a healthy cardiovascular system, and might also be an additional approach that one could take in the modern day battle against rising blood pressure'.

Source: Queen Mary, University of London

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