Feeling fruity

Kim Pearson explores the latest research which says that pomegranates could hold the key to a long and healthy life and help prevent ageing

Last month newspaper headlines hailed pomegranates as 'the key to a long and healthy life'. The media drew attention to research carried out on a by-product of pomegranates, Urolithin A, and its ability to significantly extend lifespan in worms. So what impact might this have for humans?

According to researchers, the answer could lie with our mitochondria…

Mitochondria are responsible for converting dietary macronutrients - carbohydrates, fats and proteins - into useable energy. Through a complex series of biochemical transformations, macronutrients are converted into adenosine triphosphate (ATP) and used for all biological functions. There is an association between ageing and a decline in mitochondrial efficiency. Free radicals are generated as a by-product of energy metabolism but as micochondria become damaged and dysfunctional this triggers increased production of free radicals.[1]

Oxidative stress is defined as an imbalance between the production of free radicals and their elimination by protective mechanisms, antioxidants. Oxidative stress can lead to chronic inflammation, which is not only linked to premature skin ageing but could mediate most chronic diseases including cancer, diabetes, cardiovascular, neurological and pulmonary diseases.[2]

Recent research into a by-product of pomegranate consumption, Urolithin A (UA), has shown that this natural compound may have the ability to prevent excess production of free radicals by enhancing mitochondrial function.

When researchers gave UA to worms, the animals lived an average of 45% longer. When they gave UA to elderly mice, they found that they could run 42% further. This improvement occurred in the mice without them building any more muscles, which the researchers believe suggests that UA improves muscle-cell quality, rather than quantity. This is understood to be as a result of its ability to promote elimination of damaged mitochondria.[3]

However, UA is not simply a compound found in pomegranates. It is a type of microflora metabolite of dietary ellagic acid. This means that the amount of Urolithin A produced in our bodies from pomegranates can vary widely and depends on the microflora (bacteria) present in our gut.[4]

So can we slow down the ageing process by simply eating pomegranate to regenerate our mitochondria? It's unlikely. For a start, researchers estimate that a person would have to drink up to four large glasses of pomegranate juice every day to receive a dose of UA that was equivalent to that used in the research. Nutritionally speaking, that would mean consuming a large quantity of sugar along with any beneficial nutrients which is far from beneficial for skin health.

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Secondly, UA production is dependent on our gut microflora which varies significantly from person to person. This makes it even harder to guarantee how much UA an individual would eventually produce.

What the research does emphasise once again is that incorporating a wide variety of antioxidant-rich fruits and vegetables, like pomegranate, in to our daily diet benefits our skin health and helps to prevent accelerated skin ageing.

The study also highlights yet another reason why a healthy microbiome is essential for many aspects of health, beyond simply that of the gut. **AM**

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