HKU Faculty of Dentistry finds “red yeast rice” can mend bones

Chinese red yeast rice, or *Hongqu*, long-used in Chinese cuisine as a preservative, seasoning, and red food colouring, has biological properties that promote bone generation, two researchers from the HKU Faculty of Dentistry have shown.

Made by fermenting rice with red yeast (*Monascus purpureus*), *Hongqu* is also used in traditional Chinese medicine and contains cholesterol-lowering chemicals, including lovastatin. Prof Bakr Rabie and Dr Ricky Wong from the Faculty’s Discipline of Orthodontics made an extract of *Hongqu* and applied it with the protein collagen to holes that had been made in rabbit skulls. Two weeks later, those holes had begun to fill with new bone. In contrast, holes that had been treated with collagen alone showed only a small amount of new bone at the collagen-bone junction.

In another experiment, performed in vitro, rat bone cells that had been treated with *Hongqu* extract grew up to 74% faster and had up to 31% more bone-making activity than untreated cells.

Although it is not yet known which ingredient is responsible for *Hongqu*’s ability to stimulate bone formation, the researchers suggest that its cholesterol-lowering chemicals may be involved, and conclude that *Hongqu* “is a natural product with potential in treating bone defects and probably also osteoporosis”.

The research was published in the peer-reviewed journal *Chinese Medicine*.

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