

Health

Turmeric ingredient protects liver

For centuries, practitioners of Ayurvedic medicine have counselled patients to use turmeric, a bright yellow spice popular on the subcontinent, to treat liver and digestion disorders.

In a study published last Wednesday, a team of scientists in Europe and the US give the nod to this piece of advice.

In tests on mice genetically engineered to have chronic liver inflammation, curcumin – a naturally occurring yellow pigment that is turmeric's main ingredient – appeared to delay damage that eventually leads to liver cirrhosis.

A group of engineered mice were given curcumin in their diet for four and eight weeks and were compared to engineered counterparts who had an otherwise normal diet.

The curcumin mice had "significantly reduced" scarring to their livers, damage to liver cells and less bile duct blockage compared with non-curcumin counterparts.

Lab-dish tests were also carried out on cholangiocytes – cells found in the lining of bile ducts – taken from engineered mice.

Curcumin appears to work by interfering with chemical signalling pathways in inflammation, a finding that throws open an alluring avenue for a new liver drug, the investigators believe.

"Targeting these pathways may be a promising therapeutic approach," say the authors, led by Michael Trauner, a professor of internal medicine at Medical University in Graz, Austria.

The paper appears in *Gut*, a specialist journal of the British Medical Association (BMA).

Curcumin comes from a perennial herb called *Curcuma longa*. (AFP)

Sleep lessons

Schools in Glasgow are running a trial of 'sleep lessons' to promote a healthy sleeping routine and change bad habits such as late night television.

The lessons aim to help children learn more effectively, be calmer and enjoy better mental health.

They teach pupils about the importance of getting at least nine hours' shut-eye a night and avoiding taking gadgets such as mobile phones, laptops and games consoles under the covers with them.

Although experts say pupils should be sleeping for more than nine hours a night, some get as little as four.

The charity Sleep Scotland, which is running the lessons, says sleep deprivation makes children too tired to concentrate because their brains can't work to full capacity. (Reuters)

Breast cancer types



Kathryn Borg

Last week we looked at the mammography procedure in depth. It is generally accepted that certain 'types' of women should have this procedure.

As such it targets women who fall into one of three categories: they are older than 50; they have a family history of breast cancer; or they have a genetic predisposition for the cancer. If a woman falls into either of the two latter categories, she may begin screening from the age of 30.

However, there is growing evidence to suggest a family history of cancer does not necessarily mean you are at any greater risk than the rest of the population. Researchers at the Imperial Cancer Research Fund's Cancer Epidemiology Unit at the University of Oxford, UK, say most women with a family history of breast cancer will never go on to develop the disease while, conversely, women who do have breast cancer do not have a close relative with the disease.

The research was found when 52 studies were reviewed involving 58,209 women with breast cancer and 101,986 healthy women. They discovered four out of five women who had a mother or sister with breast cancer never developed the disease themselves, whereas eight out of nine women diagnosed with breast cancer did not have a mother, sister or daughter who went on to develop the disease (*Lancet* 2001).

US researchers at the University of California have also found that cancer is not a genetic disease. It is, instead, a disease brought about by external factors such as chemicals, radiation, stress and lifestyle (diet) (*Biochem J* 2000). The results of this study were based on animals, so it needs to be taken in context with other human studies.

Nevertheless, if cancer is not a disease predetermined by our genes or family history, it would

explain the many cases of spontaneous remission observed by researchers, including the Institute of Noetic Sciences, which has tracked at least 1,000 cases of cancer that inexplicably disappeared.

So what is the alternative? Those women who do not want to give up completely on the idea of mammography may choose to use it more judiciously instead. Despite the current threshold of the age of 50 for beginning the routine screening, there is scant evidence to demonstrate that women between 50 and 55 years derive much benefit from it.

However, benefits become more apparent in older women aged between 60 and 69. In a study of 129,750 women aged 55 or older, screening reduced the death rate from breast cancer by 21 per cent compared with a similar group of 117,260 unscreened women (*Lancet* 2002).

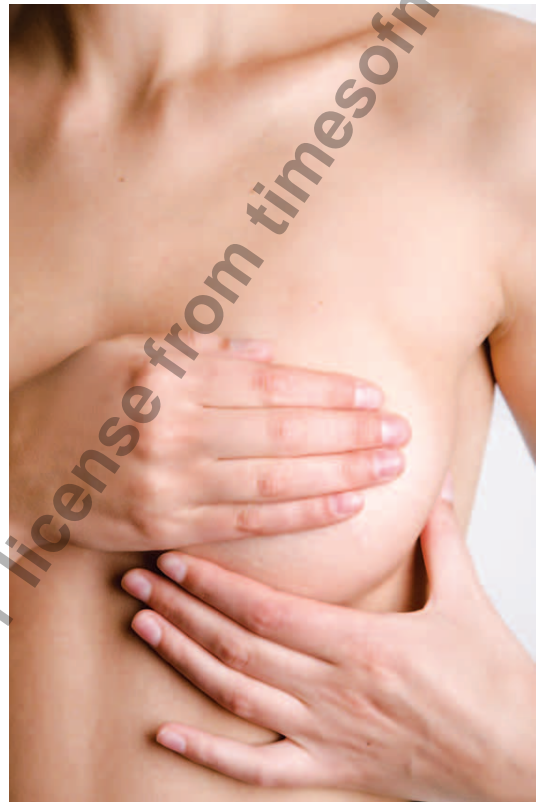
In addition, mammograms are more accurate if the woman is screened during the first part of her menstrual cycle. Breast density fluctuates throughout the cycle, and the best time to screen is within the first two weeks before menstruation, when breast tissue is less dense (*J Natl Cancer Inst* 1998).

"Not every case of breast cancer is a death sentence"

Regular self examination is still a reliable way to detect signs of breast cancer, especially if it is complemented by occasional clinical examinations by a nurse or doctor. In one study, self examination was found to be more reliable than mammograms (*N Engl J Med* 1998).

Thermography, now a virtually forgotten screening tool, is a non-invasive technology that uses infrared thermal imaging to visualise breast tumours. This was first introduced in 1956; however, it lost ground after a study in 1977 concluded it was inferior to, and less sensitive than, mammography.

Since then, few radiologists have used it. However, the computer technology has advanced so much in the past 30 years that it now has an undisputedly important role to play in cancer diagnosis, including its use as a complement to



mammography, say researchers from the Canadian College of Naturopathic Medicine (*Integr Cancer Ther* 2009).

Ultrasound is another useful and non invasive screening tool. However, as with mammograms, the accuracy is often dependent upon the skill of the operator. Finally, to avoid radiation from mammography x-rays (if this is a concern to you) then the option for asking for a digital mammogram is sometimes a possibility.

Researchers have discovered that capturing the image digitally reduces radiation exposure by 22 per cent and may be more sensitive. A study involving 49,528 women found digital mammography also detected 28 per cent more cases of cancer than conventional mammography. In the US, more than 60 per cent of the dedicated breast-imaging facilities offer

digital mammography (*Am J Roentgenol* 2010).

There is so much emotion attached to breast cancer that women naturally want to believe that a mammogram stands between them and a potentially disfiguring and life-threatening disease. Not every case of breast cancer is a death sentence, and if screening has detected a tumour it could be a false positive as the detection of benign tumours or slow growing ones is common.

The aggressive tumours tend to be missed or caught too late and they are the ones that truly endanger life.

Clearly, more investment and research are needed into other technologies. That could be accelerated if women decided they needed options and alternatives to mammograms, and more control of screening procedures.

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