

MEDICAL RESEARCH

Nano-curcumin pills on anvil

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Pune: In what could be termed a landmark achievement in the field of scientific research and health care, the National Centre for Cell Science (NCCS) has tied up with National Chemical Laboratory (NCL) to develop technology to develop nano-curcumin pills for more effective treatment for chronic ailments like cancer and diabetes.

"Curcumin, a naturally occurring compound found in turmeric has been long known as a wonderful molecule with several proven medicinal effects, that include anti-inflammatory and anti-bacterial properties. It is also an antioxidant and fights cancer. But there isn't enough bioavailability of curcumin. Nano form is a way to deal with this problem," said Ramesh Bhonde senior scientist at NCCS.

Bioavailability refers to the

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DIABETES

- Presently, India has largest number of diabetes patients in the world
- India has 25 to 30 million adult diabetes patients
- Projected to have over 37 million diabetics in 2010
- More than 57 millions in year 2025

SOURCE: Ministry of Health and Family Welfare

presence of drug molecules in the body where they are needed most. Drug delivery focuses on maximising bioavailability both at specific places in the body and over a period of time.

"Through nano drug delivery process, the curcumin will go directly to the digestive

CANCER

- An estimated 4.4 lakh people die of cancer in India every year
- About 7-9 lakh new cancer cases are detected every year in India
- At any given point of time there are 2.5 million people suffering from cancer in the country

system, metabolised by the liver and through blood, will reach the affected organ and cure the disease instead of getting flushed out of the body," Bhonde said.

Though NCCS has not planned a formal process, it is working with NCL to develop the technology for the same.

"There is an entire team in NCL ready with nano technology for metals. They have developed nano-gold and nano-silver. If they can form nano-curcumin for us, then we can test it on the animals. Instead of injecting in the body, it can be given orally with the feed to the animals. If they get cured, it will be a great achievement," he said.

According him, due to the existing technical knowledge about nano, NCL could modify it to develop the same for curcumin within six months.

"We will shortly sit down and plan something together towards this issue. Once the technology is developed and proven successful, we can immediately approach the pharmaceutical companies to develop the curcumin tablets embedded with nano technology. This will surely benefit large number of people in the country suffering from diabetes and cancer," he said.

Article dated July 17, 2008.