**Blue lights stop oral tumours growing**

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MCG & DTI

**AUGUSTA, USA/LEIPZIG:** The blue light used by dentists to harden dental fillings could also help to treat cancer, according to new research. A student at the School of Dentistry at the Medical College of Georgia, USA, of tumours while doing tests on mice.

Mr Alpesh Patel, who has been working with three other researchers on this project, studied ten tumour-bearing mice. He exposed half the mice to the blue light for 90 seconds a day for 12 days and left the other half untreated. When the tumours were extracted, he found there had been a decrease in the cell growth of the light-treated tumours.

Blue light, which is used by the latest generation of light curing units in dentistry, sends wavelengths of blue-violet light to the composite, which triggers hardening. The waves produce free radicals that activate a catalyst and speed up polymerisation of the composite resin. In oral cancer cells, though, those radicals cause damage that decreases cell growth and increases cell death, Patel said. Tissue analysis indicated an approximate 10 per cent increase in cell suicide.

“Were thinking that some day, blue light therapy may serve as an adjunct to conventional cancer therapy,” Bill Lewis, dentistry professor at the college and co-researcher on this project added. “Patients may, therefore, receive lower doses of chemotherapy, which would decrease the adverse effects most cancer patients experience from standard chemotherapy regimens.”

**Hormones speed osseointegration**

GRANADA: According to researchers at the University of Granada, Spain, the use of growth hormones can help to regenerate bone and hasten implant osseointegration to only two weeks. The research obtained the direct biochemical joint between the raw bone and the surface of the implant irrespective of any mechanical joint mechanism.

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**Toothpaste found too pricey for the poor**

LONDON: Fluoride toothpaste is prohibitively expensive for the world’s poorest people, a study published in Globalization and Health has revealed. A team of researchers compared the relative affordability of fluoride toothpaste in 48 countries and found that the poorest populations of developing countries have the least access. Fluoride toothpaste is widely used as a method of preventing dental decay, but currently only 12.5 per cent of the world benefits from it.

The researchers believe that the low-use of fluoride toothpaste is due to its cost, which is too high in some parts of the world. The results showed that in different income groups in various countries, as the per capita income decreased, the proportion of income needed to purchase a year’s supply of toothpaste increased; the poorest in each country being the hardest hit.

“Steps should be taken to make fluoride toothpaste more affordable and more accessible,” Ann Goldman, School of Public Health and Health Services at the George Washington University, USA, and member of the research team commented. “Because of the importance of fluoride toothpaste in preventing tooth decay, it must be made more available to the world’s poorest populations.”

**Vitamin D crucial for infants’ oral health**

WINNIPEG: Low concentrations of Vitamin D during pregnancy may lead to tooth enamel defects and early childhood tooth decay, researchers at the University of Manitoba, Canada, have found. In the study which was recently presented at the Annual Congress of the International Association for Dental Research in Toronto, vitamin D levels of 206 women in their second trimester of pregnancy were analysed.

The researchers also examined 155 infants and found that 21.6 per cent of them had enamel defects and 35.6 per cent showed indication of early childhood tooth decay. Mothers of infants with enamel defects had lower, but not significantly different, mean vitamin D concentrations during pregnancy than mothers of infants without enamel defects. Only 21 or 30.5 per cent of the women in the study had adequate vitamin D levels.

Vitamin D, which is chemically related to steroids, is found in milk, eggs yolks and fatty fish or is produced by activation through ultraviolet irradiation of sterols. Deficiency results in impaired bone mineralisation and leads to bone softening diseases, such as osteomalacia or osteoporosis. Latest research has indicated that it is also linked to colon and breast cancer.
WASHINGTON D.C./NEW YORK/LEIPZIG: Dentists in the US find themselves under attack from lawmakers after the US Food and Drug Administration (FDA) said that dental fillings containing mercury may pose a safety concern for pregnant women and young children. The precaution posted on the organisations website in June is a dramatic U-turn for the regulator which previously told American dentists the fillings are safe.

At a US House Government Oversight Subcommittee hearing this month in Washington D.C. representatives of the American Dental Association (ADA) and the dental industry were also asked to testify about pollution from mercury in tooth fillings and whether dentists should be required to install ‘separator’ equipment to keep pieces of fillings from getting into public wastewater as well as to report annually on quantities of mercury collected. Currently, dentists in only nine US states are required to use separators.

According to figures of the US Environmental Protection Agency, up to 10 tons of mercury from amalgam fillings are released into the environment each year. While the ADA says that dentistry only contributes a very small amount of mercury into wastewater, other organisations are not so sure. Michael Render, director of the Mercury Policy Project, a watchdog group promoting the elimination of mercury use, claims that the age of amalgam is over and recent improvements in technology for the non-mercury filling have rendered the mercury tooth filling obsolete. One only has to look at the recent bans on new amalgam placement in Norwegian or Swedish dental patients to document mercury-free tooth restoratives as a viable substitute, he said.

Norway and Denmark banned mercury from fillings earlier this year while other countries like Finland and Japan have severe restrictions. Its safety has been subject of numerous reviews, including a recent one by the EU Commission’s Scientific Committee that found no increased risk of systemic disease.

Researchers, however, claim that mercury vapour escapes and small amounts are passed into the bloodstream and organs. Some research suggests that this could be linked to high blood pressure, infertility, disorders of the central nervous system or Alzheimer’s disease. +30 210-22 22 785

Top marks for UK University

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LONDON/LEIPZIG: The Times Good University Guide has rated Queen’s University Belfast as the top dentistry school in the UK. The latest edition of the guide awarded the university’s undergraduate course in dentistry an overall rating of 100 per cent. This year the league-tables incorporated results from the National Student Survey with Queen’s being given the highest student satisfaction rating of 87 per cent.

Professor Paddy Johnston, dean of the School of Medicine and Dentistry at Queen’s, called it a “wonderful achievement” as “we drive towards the development of an international research-led dental school in the next few years.” Each year around 40 dentists graduate from Queen’s and 100 per cent are in employment six months after qualifying.

“That top ranking position recognises the dedication and commitment of the staff in Queen’s Dental School,” Professor Donald Burden, head of Dentistry, said. “It also highlights the high standards achieved by our dental students.” He added that most of the schools’ graduates will go on to work as general dental practitioners or dental specialists providing dental care for the people of Northern Ireland.