Jet 'to replace dentist's drill'

A futuristic "plasma jet" that eradicates tooth decay without fillings could be replacing the hated dentist's drill in as little as three years, it was claimed.

The space-age device fires a beam of electrically-charged oxygen atoms into tooth cavities to obliterate decay-causing bacteria. Traditionally, the same job is done by drilling holes into the tooth that has to be filled.

Unlike the dentist's drill, the plasma jet is non-invasive and is done by drilling holes into the tooth.

First Emirati professor joins Masdar

ABU DHABI // An academic who has received numerous awards for her scholastic achievements has become the first Emirati faculty member at Masdar Institute of Science and Technology.

Dr Amal al Ghaferi will be an assistant professor at the institute, which is the research arm of the US$22 billion (Dh80.8bn) carbon-neutral Masdar City project. She will teach materials science and engineering and carry out research in nanotechnology and energy.

“I believe my position at Masdar Institute will open doors to pursuing my research in nanotechnology and related fields,” said Dr al Ghaferi. “I am looking forward to this challenging mission and hope to become a role model for all UAE nationals.”

She graduated in physics from UAE University, where her grade-point average was 3.98 on a 4.0 scale. She later earned a PhD in materials science and engineering at Western Reserve University, Case School of Dental Medicine – are discussed in an article in the Feb-

uary issue of Obstetrics & Gynecology. The article explains that bleeding in the gums allows bacteria in the mouth to enter the bloodstream and potentially infect a fetus – but can be stopped by the immune system.

These findings – by Yiping Han, a researcher from Department of Periodontics at Case Western Reserve University School of Dental Medicine – are discussed in an article in the February issue of Obstetrics & Gynecology. The article explains that bleeding in the gums allows bacteria in the mouth to enter the bloodstream and potentially infect a fetus – but can be stopped by the immune system.

The timing is important here because it fits the timeframe of haematogenous (through the blood) spreading we observed in animal models that the bacteria entered the immune-free amniotic fluid and eventually ingested by the baby.

Han suspects from work with animal models that the bacteria entered the immune-free amniotic fluid and eventually ingested by the baby.

Post-mortem microbial studies of the baby found the presence of F. nucleatum in the lungs and stomach. The baby had died from a septic infection and inflammation caused by bacteria.

After questioning the mother about her health during the preg-

nancy, Han arranged for her to visit a periodontist, who col-

led author, Yiping Han, said: ‘There is an old wives’ tale that you lose a tooth for each baby, and this is due to the underlying changes during pregnancy.

‘But if there is another underlying condition in the background, then you may lose more than a tooth.’

Even though the amniotic fluid was not available for testing, Han suspects from work with animal models that the bacteria entered the immune-free amniotic fluid and eventually ingested by the baby.

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nancy, Han arranged for her to visit a periodontist, who col-
Countries in Asia less than average in health care spending

Daniel Zimmermann

LEIPZIG, Germany: Asian countries have been found to spend less of their GDP’s for health care than most other countries in Europe and the US. According to a new health care report by the Organisation for Economic Co-operation and Development (OECD) in Paris, only New Zealand provided more money for health care than the average of all observed countries. Japan, Korea and Australia, however, spent less than the OECD average of 8.9 per cent of GDP.

The US currently spends more on health care than any other country—almost two and a half times greater than the OECD average of US$2,984, adjusted for purchasing power parity, Luxembourg, France and Switzerland also spend far more than the OECD average. At the other end of the scale, health-care expenditure in Turkey and Mexico is less than one-third of the OECD average.

The latest edition of Health at a Glance demonstrates that all the countries observed could do better in providing good quality health care. Key indicators presented in the report provide information on health status and the determinants of health, including the growing rates of child and adult obesity, which are likely to drive higher health spending in the coming decades.

Based on new data on access to care, the report demonstrates that all OECD countries provide universal or near-universal coverage for a core set of health services, except the US, Mexico and Turkey.

Jet 'to replace dentist's drill'

The scientists infected dentine—material that causes cavities—of extracted human molars with four strains of bacteria and exposed it to plasma for between six and 18 seconds. The longer the treatment continued, the greater the amount of bacteria that was eliminated.

Lead researcher Dr Stefan Rupf, from Saarland University in Homburg, said: "The low temperature means they can kill the microbes while preserving the tooth. The dental pulp at the centre of the tooth, underneath the dentine, is linked to the blood supply and nerves and heat damage to it must be avoided at all costs."

Baby death linked to mum’s gum disease

Dr. Abdel Salam Al Askary, Implantology, Egypt

Selected plaque samples from her teeth, using DNA cloning technologies, Han found a match in the bacterium in the mother’s mouth with the bacterium in the baby’s infected lungs and stomach.

"The testing strongly suggested the bacteria were delivered through the blood," Han said. With preventive periodontal treatment and oral health care, the mother has since given birth to a healthy baby.

Han says this points again to the growing importance of good oral health care. Collaborating with Han on the case study were Yann Fardini, Casey Chen, Karlia G. Lucampe, Virginia A. Petrucco, Jaime Shamsonki and Raymond W. Redline.

The study had support from the National Institute of Dental and Craniofacial Research in the US.

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Dr. Kamal Balaghi Mobin Aesthetics, Iran

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Dr. Lara Bakaeen, Prosthodontist, Jordan

Dr. Tatal Al-Harbi, Orthodontist, Qatar

Dr. Mustafa Al-Ali, Rheumatism

Dr. Laos Hirokawa, Prosthodontist, Iraq

Dr. Sima Farhang, Oral Medicine, Jordan

Dr. Ali Hadi, Periodontology, UAE

Dr. Kaimal Balagh Ali Mohsin Aesthetics, Iran

Dr. Ahmad Shams, Periodontology, UAE

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