

SMOKING DURING PREGNANCY LINKED TO OROFACIAL CLEFTS

There is a positive association between maternal smoking during the first trimester of pregnancy and orofacial clefts, according to a study in the July issue of *Cleft Palate-Craniofacial Journal*.

Subjects in the Scottish study were 190 children born with an orofacial cleft between Sept. 1, 1997, and Jan. 31, 2000, and 248 matched controls. To investigate the association between maternal smoking and orofacial clefts, researchers used a structured interview to assess the subjects' mothers' exposure to tobacco smoke.

Researchers found that maternal smoking during the first trimester of pregnancy increased the subject's odds of having cleft lip with or without cleft palate by 1.9-fold and the odds of having cleft palate by 2.3-fold.

The study's finding of a small increase in the risk of a subject's developing cleft lip with or without cleft palate when the mother smoked during pregnancy is in line with findings from previous studies. However, their finding of an increased risk for cleft palate was in contrast with finding from some previous studies.

Researchers also found evidence that the level of risk for both types of orofacial clefts was related to the amount the mothers smoked. In addition, the data indicated that maternal passive smoking increased the subject's risk of developing orofacial clefts. The study, however, lacked the statistical power to detect or exclude such an effect with confidence.

Researchers suggest that it

may be useful to incorporate information on the effects of maternal smoking on orofacial clefts into public health campaigns on the consequences of maternal smoking.

PERIODONTAL LIGAMENT STEM CELLS ISOLATED

For the first time, researchers have isolated human postnatal stem cells directly from the periodontal ligament, according to a study in the July 10 issue of *The Lancet*.

Senior author Dr. Songtao Shi said scientists have suspected since the 1970s that the periodontal ligament, or PDL, might contain its own stem cells. They have not, however, been able to prove this, and some wondered if stem cells could be extracted from such a small amount of tissue.

About two years ago, Dr. Shi and colleagues obtained PDL tissue from 25 newly extracted third molars. They then extracted, sorted and cultured the various cells from the tissue.

Researchers noticed numerous rapidly dividing cell colonies that had the general characteristics of stem cells. They confirmed their observation when they detected two proteins that are known to reside on the surface of mesenchymal stem cells, the general type of postnatal stem cell from which those in the PDL would be derived developmentally.

They also detected an unusually high level of a gene-activating protein that is specific to cells in tendons, which further suggested that PDL stem cells have been grown.

After further validation of their findings, researchers transplanted stem cells—each

derived from a distinct colony cultured in the laboratory and loaded into a hydroxyapatite carrier—to determine if these stem cells could form PDL and cementum when transplanted into mice and rats.

Of the 13 transplants, eight produced a dense mixture of cementum and PDL, as well as fibrous structures similar to Sharpey's fibers, which insert into both cementum and bone to hold teeth in place. The other five transplants showed no signs of differentiation.

Researchers are following up on this finding using larger animals. If successful, Dr. Shi said they would like to evaluate the cells' regenerative ability in humans who have advanced periodontal disease. "From a clinical point of view, what's nice is these stem cells are easily accessible," said Dr. Shi. "In theory, people could one day preserve, or bank, these stem cells when they have their wisdom teeth extracted, opening the door for biology-based regenerative treatment later in life of advanced periodontal disease."

Compiled by Amy E. Lund, editorial coordinator.

LYCOPENE MAY WARD OFF ORAL CANCER

Indulging in tomato sauce and other lycopene-rich foods—such as watermelon, guava and pink grapefruit—may help ward off oral cancer, according to a study in the July issue of the journal *Oral Oncology*.

Researchers studied 58 patients diagnosed with leukoplakia, the most common precancerous lesion, which appears as white patches in the mouth that are associated with tobacco use.

One group of patients received 8 milligrams of

lycopene each day, a second group received 4 mg a day, and a third group received placebos. They were evaluated every seven to 10 days during the three-month study and every 15 days during a two-month follow-up period.

Patients who received either dose of lycopene, especially the higher-dose group, showed highly significant improvement in their oral health compared with the group that received the placebo. Researchers theorize that lycopene is a promising antioxidant that can be used to treat oral leukoplakia and protect cells against damage and progression of precancerous cells toward cancer.

Reported by Stacie Crozier, senior editor, ADA News.

MEETINGS

■ The Psi Omega Fraternity will hold its Annual Meeting Oct. 1-2 in Orlando, Fla. For more information, contact Dr. Tom Kays by phone at 1-843-556-0573 or by e-mail at "psiomega@bellsouth.net".

■ The Japanese Association for Dental Science will hold its 20th General Meeting Oct. 29-31 in Yokohama. For more information, contact the JAD by phone at 011-81-3-3508-1231 or by e-mail at "jads2004@convention.co.jp".

■ The Jamaica Dental Association will hold its 41st Annual Dental Convention Feb. 16-20 in Ocho Rios. For more information, contact the JDA by phone at 1-876-927-5552, by fax at 1-876-927-8230 or by e-mail at "dwangus@n5.com.jm" or visit "www.jamaicadentalassn.com".

■ The 15th International Congress of Dento-Maxillo-Facial Radiology will be held

May 28-June 2 in Cape Town, South Africa. For more information, contact the congress by e-mail at "liezelc@sun.ac.za".

■ The Swiss Dental Association will hold its congress May 21-June 3 in Basel. For more information, contact the SDA by phone at 011-41-31-311-74-71, by fax at 011-41-31-311-74-70 or by e-mail "secretariat@sso.ch" or visit "www.sso.ch".

APPOINTMENTS/ ELECTIONS/AWARDS

■ **Dr. Kenneth B. Chance**, Lexington, Ky., received the Distinguished Alumnus of the Year Award from Case Western Reserve University School of Dental Medicine.

■ **Dr. Larry M. Doyle**, Tigard, Oregon, was elected supreme president of Xi Psi Phi International Dental Fraternity. Other officers are **Dr. Susan Z. Smith**, Downers Grove, Ill., supreme president-elect; **Dr. Penelope S. Yip**, Berkeley, Calif., supreme vice president; **Dr. Keith W. Dickey**, Alton, Ill., supreme secretary-treasurer; and **Dr. Leighton Wier**, San Antonio, supreme editor. **Dr. Yip**; **Dr. Louise R. First**; Florissant, Mo.; **Dr. Christopher J. Walinski**, Fall River, Mass.; and **Dr. George Knight**, San Antonio, are province chairs. **Dr. Troy L. Jones**, San Antonio, is Xi Psi Phi Foundation chair.

■ **Dr. Roseann Mulligan**, Culver City, Calif., won the Harold Berk Award from Special Care Dentistry and the Academy of Dentistry for Persons with Disabilities.

■ **Dr. Neophytos L. Savide**, Palos Heights, Ill., was elected president of the American Academy of Pediatric Dentistry. Other officers are **Dr. H. Pitts**

Hinson, Lawrenceburg, Tenn., president-elect; **Dr. Philip H. Hunke**, McAllen, Texas, vice president; and **Dr. Bradley R. Smith**, Centennial, Colo., at-large trustee. **Dr. Kevin J. Hale**, Brighton, Mich., and **Dr. George M. Richardson**, South Burlington, Vt., are trustees.

■ **Dr. Jon Suzuki**, Pittsburgh, was reappointed to serve as chair of the Dental Products Panel of the U.S. Food and Drug Administration's Medical Devices Advisory Committee.

CALENDAR OF EVENTS

ADA ANNUAL SESSIONS

2004 Sept. 30-Oct. 3, Orlando, Fla.

2005 Oct. 6-9, Philadelphia

2006 Oct. 16-19, Las Vegas

2004 CONSTITUENT DENTAL SOCIETY ANNUAL MEETINGS

Meeting dates are subject to change. Dentists interested in attending any of the listed meetings should contact the sponsoring organization for more information.

Maryland State Dental Association, 6410 Dobbin Road, Suite F, Columbia 21045, 1-410-964-2880, Chesapeake Dental Conference, **Sept. 17-19, Ocean City.**

Ohio Dental Association, 1370 Dublin Road, Columbus 43215-1009, 1-614-486-2700, **Sept. 16-19, Columbus.**

Vermont State Dental Society, 100 Dorset St., Suite 18, South Burlington 05403-6241, 1-802-864-0115, **Vermont Annual Dental Team Meeting, Sept. 23-24, Burlington.**

Compiled by Mark Berthold, senior editor, ADA News.