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! Health Info-Com Network !

! Medical Newsletter !

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Centers for Disease Control and Prevention - MMWR

Rates of Cesarean Delivery -- United States, 1991

Cesarean deliveries have accounted for nearly 1 million of the approximately 4 million annual deliveries in the United States since 1986 (Table 1). The cesarean rate in the United States is the third highest among 21 reporting countries, exceeded only by Brazil and Puerto Rico (1). This report presents data on cesarean deliveries from CDC's National Hospital

Discharge Survey (NHDS) for 1991 and compares these data with previous years. Data on discharges from short-stay, nonfederal hospitals have been collected annually since 1965 in the NHDS, conducted by CDC's National Center for Health Statistics. For 1991, medical and demographic information were abstracted from a sample of 274,000 inpatients discharged from 484 participating hospitals. The 1991 cesareans and vaginal births after a prior cesarean (VBAC) presented in this report are based on weighted national estimates from the NHDS sample of approximately 31,000 (11%) women discharged after delivery. The estimated numbers of live births by type of delivery were calculated by applying cesarean rates from the NHDS to live births from national vital registration data. Therefore, estimates of the number of cesareans in this report will not agree with previously published data based solely on the NHDS (2). Stated differences in this analysis are significant at the 95% confidence level, based on the two-tailed t-test with a critical value of 1.96.

In 1991, there were 23.5 cesareans per 100 deliveries, the same rate as in 1990 and similar to rates during 1986-1989 (Table 1). The primary cesarean rate (i.e., number of first cesareans per 100 deliveries to women who had no previous cesareans) for 1986-1991 also was stable, ranging from 16.8 to 17.5.

In 1991, the cesarean rate in the South was 27.6, significantly ($p<0.05$) higher than the rates for the West (19.8), Midwest (21.8), and Northeast (22.6). Rates were higher for mothers aged greater than or equal to 30 years than for younger women; in proprietary hospitals than in nonprofit or government hospitals; in hospitals with fewer than 300 beds than in larger hospitals; and for deliveries for which Blue Cross/Blue Shield * and other private insurance is the expected source of payment than for other sources of

payment (Table 2). The same pattern characterized primary cesarean deliveries.

Since the early 1970s, the number and percentage of births to older women increased; however, if the age distribution of mothers in 1991 had remained the same as in 1986, the overall cesarean rate in 1991 would have been 23.3, essentially the same as the 23.5 observed.

Based on the NHDS, of the approximately 4,111,000 live births in 1991, an

estimated 966,000 (23.5%) were by cesarean delivery. Of these, an estimated 338,000 (35.0%) births were repeat cesareans, and 628,000 (65.0%) were primary cesareans. Since 1986, approximately 600,000 primary cesareans have been performed annually. In 1986, 8.5% of women who had a previous cesarean delivered vaginally, compared with 24.2% in 1991. Of all cesareans in 1991, 35.0% were associated with a previous cesarean, 30.4% with dystocia (i.e., failure of labor to progress), 11.7% with breech presentation, 9.2% with fetal distress, and 13.7% with all other specified complications.

The average hospital stay for all deliveries in 1991 was 2.8 days. In comparison, the hospital stay for a primary cesarean delivery was 4.5 days, and for a repeat cesarean, 4.2 days -- nearly twice the duration for VBAC deliveries (2.2 days) or for vaginal deliveries that were not VBACs (2.3 days). In 1986, the average hospital stay for all deliveries was 3.2 days, for primary cesareans 5.2 days, for repeat cesareans 4.7 days, and for VBAC and non-VBAC vaginal deliveries 2.7 and 2.6 days, respectively.

Reported by: Office of Vital and Health Statistics Systems, National Center for Health Statistics, CDC.

Editorial Note: The cesarean rate in the United States steadily increased from

1965 through 1986; however, the findings in this report indicate that rates have been stable since 1986 (3). Because there is little evidence that maternal and child health status has improved during this time and because cesareans are associated with an increased risk for complications of childbirth, a national health objective for the year 2000 (4) is to reduce the overall cesarean rate to 15 or fewer per 100 deliveries and the primary cesarean rate to 12 or fewer per 100 deliveries (objective 14.8).

Postpartum complications -- including urinary tract and wound infections -- may account in part for the longer hospital stays for cesarean deliveries than for vaginal births (5). Moreover, the prolonged hospital stays for cesarean deliveries substantially increase health-care costs. For example, in 1991, the average costs for cesarean and vaginal deliveries were $7826 and $4720, respectively. The additional cost for each cesarean delivery includes $611 for physician fees and $2495 for hospital charges (6). If the cesarean rate in 1991 had been 15 (the year 2000 objective) instead of 23.5, the number of cesarean births would have decreased by 349,000 (617,000 versus 966,000), resulting in a savings of more than $1 billion in physician fees and hospital charges.

Despite the steady increase in VBAC rates since 1986, several factors may impede progress toward the year 2000 national health objectives for cesarean delivery. For example, VBAC rates substantially reflect the number of women offered trial of labor, which has been increasingly encouraged since 1982 (7). Of women who are offered a trial of labor, 50%-70% could deliver vaginally (7) --a level already achieved by many hospitals (8). Trial of labor was routinely offered in 46% of hospitals surveyed in 1984 (the most recent year for which

national data are available) (9) when the VBAC rate (according to NHDS data) was 5.7%. The year 2000 objective specifies a VBAC rate of 35%, based on all women who had a prior cesarean, regardless of whether a trial of labor was attempted. To reach the overall cesarean rate goal, however, increases in the VBAC rate will need to be combined with a substantial reduction in the primary rate.

One hospital succeeded in reducing the rate of cesarean delivery by applying objective criteria for the four most common indications for cesarean delivery, by requiring a second opinion, and by instituting a peer-review process (10). Other recommendations for decreasing cesarean delivery rates include eliminating incentives for physicians and hospitals by equalizing reimbursement for vaginal and cesarean deliveries; public dissemination of physician- and hospital-specific cesarean delivery rates to increase public awareness of differences in practices; and addressing malpractice concerns, which may be an important factor in maintaining the high rates of cesarean delivery (4).

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Malaria Among U.S. Embassy Personnel -- Kampala, Uganda, 1992

The treatment and prevention of malaria in Africa has become a challenging and complex problem because of increasing drug resistance.

Although the risk of acquiring malaria for U.S. citizens and their dependents stationed overseas generally has been low, this risk varies substantially and unpredictably. During May 1992, the Office of Medical Services, Department of State (OMS/DOS), and CDC were notified of an increased number of malaria cases among official U.S. personnel stationed in Kampala, Uganda. A review of the health records from the Embassy Health Unit (EHU) in Kampala indicated that 27 cases of malaria were diagnosed in official personnel from March through June 1992 compared with two cases during the same period in 1991. EHU, OMS/DOS, and CDC conducted an investigation to confirm all reported malaria cases and identify potential risk factors for malaria among U.S. Embassy personnel. This report summarizes the results of the investigation.

Malaria blood smears from 25 of the 27 reported case-patients were available for review by OMS/DOS and CDC. A case of malaria was confirmed if the slide was positive for Plasmodium sp. Of the 25 persons, 17 were slide-confirmed as having malaria.

A questionnaire was distributed to all persons served by the EHU to obtain information about residence, activities, use of malaria chemoprophylaxis, and use of personal protection measures (i.e., using bednets and insect repellents, having window and door screens, and wearing long sleeves and pants in the evening). Of the 157 persons eligible for the survey, 128 (82%) responded.

Risk for malaria was not associated with sex or location of residence in Kampala. Although the risk for malaria was higher among children aged less than or equal to 15 years (6/32 19%) than among persons greater than 15 years (11/94 12%), this difference was not significant (relative risk RR=1.6; 95% confidence interval CI=0.6-4.0). Eighty-two percent of the

cases occurred among persons who had been living in Kampala for 1-5 years, compared with those living there less than 1 year. Travel outside of the Kampala area to more rural settings was not associated with increased risk for malaria.

Four malaria chemoprophylaxis regimens were used by persons who participated in the survey: mefloquine, chloroquine and proguanil, chloroquine alone, and proguanil alone. In addition, 23 (18%) persons who responded were not using any malaria chemoprophylaxis. The risk for malaria was significantly lower among persons using either mefloquine or chloroquine and proguanil (8/88 9%) than among persons using the other regimens or no prophylaxis (9/37 24%) (RR=0.4; 95% CI=0.2-0.9). Twelve persons not using prophylaxis reported side effects or fear of possible side effects as a reason.

The risk for malaria was lower among persons who reported using bednets

all or most of the time (2/27 7%) than among persons who sometimes or rarely used bednets (15/99 15%) (RR=0.5; 95% CI=0.1-2.0). The risk for malaria was also lower among persons who consistently used insect repellent in the evening (0/16), compared with those who rarely used repellent (17/110 15%) (RR=0; upper 95% confidence limit=1.2). Risk for malaria was not associated with failure to have window or door screens or wear long sleeves or pants in the evening.

As a result of this investigation, EHU staff reviewed with all personnel the need to use and comply with the recommended malaria chemoprophylaxis regimens. EHU staff also emphasized the need to use personal protection measures and made plans to obtain insecticide-impregnated bednets and to

provide window and door screens for all personnel.

Reported by: U.S. Embassy Health Unit, Kampala, Uganda; Office of Medical Svcs, Dept of State, Washington, D.C. Malaria Br, Div of Parasitic Diseases, National Center for Infectious Diseases, CDC.

Editorial Note: In Uganda, the increase in malaria among U.S. personnel was attributed to poor adherence to both recommended malaria chemoprophylaxis regimens and use of personal protection measures during a period of increased malaria transmission and intensified chloroquine resistance in sub-Saharan Africa. The findings in this report underscore the need to provide initial and continued counseling regarding malaria prevention for persons living abroad in malaria-endemic areas -- preventive measures that are also important for short-term travelers to such areas.

Mefloquine is an effective prophylaxis regimen in Africa and in most other areas with chloroquine-resistant P. falciparum; however, in some areas (e.g., Thailand), resistance to mefloquine may limit its effectiveness. In Africa, the efficacy of mefloquine, compared with chloroquine alone, in preventing infection with P. falciparum is 92% (1). Mefloquine is safe and well tolerated when given at 250 mg per week over a 2-year period. The risk for serious adverse reactions possibly associated with mefloquine prophylaxis (e.g., psychosis and convulsions) is low (i.e., 1.3-1.9 episodes per 100,000 users 2), while the risk for less severe adverse reactions (e.g., dizziness, gastrointestinal complaints, and sleep disturbances) is similar to that for other antimalarial chemoprophylactics (1).

Doxycycline has similar prophylactic efficacy to mefloquine, but the need for daily dosing may reduce compliance with and effectiveness of this regimen (3,4). Chloroquine alone is not effective as prophylaxis in areas of intense

chloroquine resistance (e.g., Southeast Asia and Africa). In Africa, for persons who cannot take mefloquine or doxycycline, chloroquine and proguanil is an alternative, although less effective, regimen. Chloroquine should be used for malaria prevention in areas only where chloroquine-resistant P. falciparum has not been reported.

Country-specific recommendations for preventing malaria and information

on the dosage and precautions for malaria chemoprophylaxis regimens are available from Health Information for International Travel, 1992 (i.e., "yellow book") (5) or 24 hours a day by telephone or fax, (404) 332-4555.

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FDA Approval of Use of a New Haemophilus b Conjugate Vaccine and a Combined Diphtheria-Tetanus-Pertussis and Haemophilus b Conjugate Vaccine for Infants and Children

Haemophilus influenzae type b (Hib) conjugate vaccines have been recommended for use in infants since 1990, and their routine use in infant vaccination has contributed to the substantial decline in the incidence of Hib disease in the United States (1-3). Vaccines against diphtheria, tetanus, and pertussis during infancy and childhood have been administered routinely in the United States since the late 1940s and has been associated with a greater than 90% reduction in morbidity and mortality associated with infection by these organisms. Because of the increasing number of vaccines now routinely recommended for infants, a high priority is the development of combined vaccines that allow simultaneous administration with fewer separate injections.

The Food and Drug Administration (FDA) recently licensed two new products for vaccinating children against these diseases: 1) the Haemophilus b conjugate vaccine (tetanus toxoid conjugate, ActHIB Trademark), * for vaccination against Hib disease only and 2) a combined diphtheria and tetanus toxoids and whole-cell pertussis vaccine (DTP) and Hib conjugate vaccine (TETRAMUNE Trademark), a combination of vaccines formulated for use in vaccinating children against diphtheria, tetanus, pertussis, and Hib disease.

ActHIB Trademark

On March 30, 1993, the FDA approved a new Haemophilus b conjugate vaccine, polyribosylribitol phosphate-tetanus toxoid conjugate (PRP-T), manufactured by Pasteur Merieux Serum et Vaccins and distributed as ActHIB

Trademark by Connaught Laboratories, Inc. (Swiftwater, Pennsylvania). This vaccine has been licensed for use in infants in a three-dose primary vaccination series administered at ages 2, 4, and 6 months. Previously unvaccinated infants 7-11 months of age should receive two doses 2 months apart. Previously unvaccinated children 12-14 months of age should receive one dose. A booster dose administered at 15 months of age is recommended for all children. Previously unvaccinated children 15-59 months of age should receive a single dose and do not require a booster. More than 90% of infants receiving a primary vaccination series of ActHIB Trademark (consecutive doses at 2, 4, and 6 months of age) develop a geometric mean titer of anti-Haemophilus b polysaccharide antibody greater than 1 ug/mL (4). This response is similar to that of infants who receive recommended series of previously licensed Haemophilus b conjugate vaccines for which efficacy has been demonstrated in prospective trials. Two U.S. efficacy trials of PRP-T were terminated early because of the concomitant licensure of other Haemophilus b conjugate vaccines

for use in infants (4). In these studies, no cases of invasive Hib disease were detected in approximately 6000 infants vaccinated with PRP-T. These and other studies suggest that the efficacy of PRP-T vaccine will be similar to that of the other licensed Hib vaccines. TETRAMUNE Trademark

On March 30, 1993, the FDA approved a combined diphtheria and tetanus toxoids and whole-cell pertussis vaccine (DTP) and Haemophilus b conjugate vaccine. TETRAMUNE Trademark, available from Lederle-Praxis Biologicals (Pearl River, New York), combines two previously licensed products, DTP (TRIIMMUNOL Registered, manufactured by Lederle Laboratories Pearl River, New York) and

Haemophilus b conjugate vaccine (HibTITER Registered, manufactured by Praxis Biologics, Inc. Rochester, New York).

This vaccine has been licensed for use in children aged 2 months-5 years for protection against diphtheria, tetanus, pertussis, and Hib disease when indications for vaccination with DTP vaccine and Haemophilus b conjugate vaccine coincide. Based on demonstration of co mparable or higher antibody responses to each of the components of the two vaccines, TETRAMUNE Trademark is expected to provide protection against Hib, as well as diphtheria, tetanus, and pertussis, equivalent to that of already licensed formulations of other DTP and Haemophilus b vaccines.

The Advisory Committee for Immunization Practices (ACIP) recommends that all infants receive a primary series of one of the licensed Haemophilus b conjugate vaccines beginning at 2 months of age and a booster dose at age 12-15 months (5). The ACIP also recommends that all infants receive a four-dose primary series of diphtheria and tetanus toxoids and pertussis vaccine at 2, 4, 6, and 15-18 months of age, and a booster dose at 4-6 years (6-8). A complete statement regarding recommendations for use of ActHIB Trademark and TETRAMUNE Trademark is being developed.

Reported by: Office of Vaccines Research and Review, Center for Biologics Evaluation and Research, Food and Drug Administration. Div of Immunization, National Center for Prevention Svcs; Meningitis and Special Pathogens Br, Div of Bacterial and Mycotic Diseases, National Center for Infectious Diseases,

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Dental News

International Workshop Explores Oral Manifestations of HIV Infection

NIDR Research Digest

written by Jody Dove

March 1993

National Institute of Dental Research

At the Second International Workshop on the Oral Manifestations of HIV Infection, held January 31-February 3 in San Francisco, participants explored issues related to the epidemiology, basic molecular virology, mucosal immunology, and oral clinical presentations of HIV infection.

The workshop was organized by Dr. John Greenspan and Dr. Deborah Greenspan of the Department of Stomatology, School of Dentistry, University of California, San Francisco. An international steering committee and scientific program committee provided guidance.

The conference drew more than 260 scientists from 39 countries, including Asia, Africa, Europe, Central America, South America, as well as the United States and Canada. Support tor the workshop was provided by the National Institute of Dental Research, the National Cancer Institute, the National Institute of Allergy and Infectious Diseases, the NIH Office of AIDS Research, and the Procter and Gamble Company.

Among the topics discussed were: the epidemiology of HIV lesions; ethics, professional responsibility, and public policy; occupational issues; provision of oral care to the HIV-positive population; salivary HIV transmission and mucosal immunity; opportunistic infections; pediatric HIV infection; and women's issues.

Recommendations

Recommendations emerged from the workshop to define the association between the appearance of oral lesions and rate of progression of HIV, to establish a universal terminology for HIV-associated oral lesions, to look for more effective treatments for oral manifestations, to expand molecular biology studies to understand the relationship between HIV infection and common oral lesions, and to study the effects of HIV therapy on oral lesions.

Epidemiology

Since the First International Workshop on Oral Manifestations of HIV Infection was convened five years ago, the epidemiology of HIV infection has

radically changed. In 1988, HIV infection was detected and reported largely in homosexual and bisexual males, intravenous drug users, and hemophiliacs. Today, more HIV infection is seen in heterosexual males and females and in children and adolescents.

While the predominant impact of HIV infection has been felt in Africa, a major increase in infection rate is being seen in Southeast Asia as well. Five hundred thousand cases have been reported to date in this region and more are appearing all the time.

Researchers are continuing to document the epidemiology of oral lesions such as hairy leukoplakia and candidiasis. They also are beginning to explore the relationships between specific oral lesions and HIV disease progression and prognosis.

Social/political Issues

Discussion on the social and political implications of HIV infection

focused on changing the public's attitude that AIDS is retribution for indiscriminate sexual behavior and drug use. Speakers also addressed health care delivery for HIV-infected patients, and the need to educate the public about what AIDS is, and how it is acquired.

Saliva and Salivary Glands

Conference speakers described transmission issues and the HIV-inhibitory activity of saliva, the strength of which varies among the different salivary secretions. Whole saliva has a greater inhibitory effect than submandibular secretions, which in turn have a greater inhibitory effect than parotid secretions. Research has shown that at least two mechanisms are responsible for salivary inhibitory activity. They attributed the HIV-inhibitory effect of saliva to the 1) aggregation/agglutination of HIV by saliva, which may both promote clearance of virus and prevent it reaching a target cell, and 2) direct effects on the virus or target cells.

Other topics discussed were the manifestation of salivary gland disease in HIV-infected persons and current research on oral mucosal immunity.

Pediatric Issues

Pediatric AIDS recently has emerged as an area of intense interest. With early and accurate diagnosis and proper treatment, the life expectancy of HIV-infected children has tripled. The prevention of transmission of HIV from mother to child may be possible in many cases, particularly if the mother's sero-status is known prior to giving birth.

Periodontal and Gingival Tissue Disease

Oral health researchers continue to explore periodontal diseases and

gingivitis found in individuals with HIV infection. Recommendations made at the workshop include the standardization of terminology, refinement of diagnostic markers, standardization of study design, and proper consideration of confounding variables resulting from periodontal therapy.

Occupational and Treatment Issues

Occupational issues surrounding the treatment of HIV-infected individuals and treatment rendered by HIV-infected health care professionals still command considerable attention. Factors under consideration include the cost/benefit of HIV testing, patient-to-health care provider transmission of HIV infection and the reverse, and the use of mainstream versus dedicated facilities for the treatment of HIV-infected patients.

Conference participants anticipate that a third International Workshop on the Oral Manifestations of HIV Infection will be held in five years or less. Proceedings from the second workshop will be published by the Quintessence Company in late 1993.

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