Acquired immunodeficiency syndrome and perinatal procedures

To the Editors:

Acquired immunodeficiency syndrome is a disease that is transmitted by exchange of blood and body fluids. Transplacental passage of the human immunodeficiency virus (HIV) is postulated to be the route of infection for the fetus.[1, 2] However, because not all infants delivered from HIV-positive mothers are infected (have not been found to be infected),[2, 3] some fetuses obviously escape this route of infection. Also, some infants escape infection during the perinatal and neonatal period. Perhaps it would be possible to further lessen the risk of transmission of the virus to the infant in the fetal, perinatal, and neonatal periods by observing the following precautions:

1. Avoid cordocentesis (percutaneous umbilical blood sampling) on mothers who are HIV-positive. Theoretically, this technique could infect the fetus by essentially allowing the fetus to "share a needle" with the mother.
2. Avoid fetal scalp clips and fetal scalp sampling in labor unless absolutely necessary. Puncture sites in the fetal scalp could, theoretically, during labor, serve as a portal of entry for the virus.
3. Avoid delivery by vacuum extraction, a procedure that could produce abrasions and breaks in the infant's scalp and thus produce a portal of entry for the virus.
4. Avoid intramuscular injections (vitamin K) and heel sticks in the newborn infant until all maternal blood and body fluids have been removed from the baby by bathing.
5. If venipuncture is necessary in emergency situations, remove all maternal blood and fluids as thoroughly as possible from the proposed venipuncture site.

All health care workers who deliver or assist in the labor and delivery of HIV-positive pregnant patients should become familiar with and observe all hospital, infectious disease, and Centers for Disease Control guidelines regarding blood and body fluid precautions. Among other precautions, obstetricians and certified nurse-midwives should pay particular attention to the following:

1. Avoid paracervical blocks and pudendal blocks for pain relief unless absolutely necessary, because both procedures are performed by guidance of a needle to certain landmarks by palpation. Neither is performed under direct visualization, thus the risk of a needle stick injury is possible. Patients who are HIV-positive should not be denied the pain relief of these procedures as long as the operator is aware of the great potential for needle stick injury.
2. Wear protective eyewear to avoid splash contamination of the eyes by amniotic fluid at the time of delivery and by blood during surgical procedures and at the time the umbilical cord is cut.

Finally, it would be of great interest to know if indeed there is a significant difference in the incidence of HIV infections in infants born to HIV-positive mothers depending on whether or not a scalp clip or scalp sampling was used in labor. The Centers for Disease Control or hospitals delivering many HIV-positive patients might be able to provide us with this information.

E. L. Swift, MD

Division of Obstetrics
Department of Obstetrics and Gynecology
Cook County Hospital
Chicago, IL 60612

REFERENCES

1. Lapointe N, Michaud J, Drasko P, et al. Transplacental transmission of HTLV-III virus [Letter]. N Engl J Med 1985;312:1325.
2. Chiodo F, Ricchi E, Costigliola P, et al. Verticle transmission of HTLV-III [Letter]. Lancet 1986;1:739.
3. Jensen LP, O'Sullivan MJ, Gomez-del-Rio, et al. Acquired immunodeficiency (AIDS) in pregnancy. AM J OBSTET GYNECOL 1984;148:1145-6.

Cocaine use during pregnancy: Adverse perinatal outcome

To the Editors:

In the September 1987 issue of the AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY, Dr. MacGregor et al. suggest that cocaine use by women during pregnancy may adversely affect perinatal outcome (MacGregor SN, et al. Cocaine use during pregnancy: adverse perinatal outcome. AM J OBSTET GYNECOL 1987;157:686-90). The authors state that "it may matter little if cocaine is used either alone or with other substances of abuse" (page 689) such as opiates, marijuana, barbiturates, amphetamines, phencyclidine, benzodiazepines, or LSD (Table IV). From their results, the authors conclude that the "use of cocaine during pregnancy was associated with lower gestational age at delivery, an increase in preterm labor and delivery, lower birth weights, and small for gestational age infants" (page 689). However, many of these same characteristics are also observed in infants born to mothers who abuse alcohol during pregnancy and may be manifested in a form of the fetal alcohol syndrome.[1-5]

Other studies have also focused on the effects of cocaine use in pregnant women and related perinatal outcome.[6] However, unlike MacGregor et al., those investigators used a patient population with a matched control group that eliminated those subjects who had consumed alcohol during early pregnancy.[6]

MacGregor et al. include a table that describes the maternal demographic and prenatal data for both the control and study populations (Table I, page 687). Although they demonstrate that these groups do not differ significantly in age, parity, weight gain, or tobacco use, they do report a statistically significant difference

for alcohol abuse between the control and study populations at the $p < 0.05$ level (Table I).

An absolutely safe level of alcohol consumption during pregnancy and its effect on perinatal outcome has not been established.[4] Therefore, it is unclear whether the differences the authors report in the obstetric data (Table II) when compared by pattern of abuse (Table IV) are truly due to the use of cocaine or represent manifestations of alcohol abuse during early pregnancy.

Although this is seemingly a trivial point, analysis of the authors' data after elimination of subjects from both groups who abused alcohol during the investigation might fail to reveal a statistically significant correlation between cocaine abuse in early pregnancy and poor perinatal outcome. On the other hand, such reanalysis might lend support to their assertion that observed poor perinatal outcome in the study was indeed due to the use of cocaine and not simply a reflection of maternal alcohol abuse during early pregnancy.

Mark T. Donvito, MD
Department of Emergency Medicine
Morristown Memorial Hospital
100 Madison Ave.
Morristown, NJ 07960

REFERENCES

1. Cooper S. Annotation. The fetal alcohol syndrome. J Child Psychol Psychiatry 1987;28:223.
2. Ernhart CB, Sokol RJ, Martier S, et al. Alcohol teratogenicity in the human: a detailed assessment of specificity, critical period, and threshold. Am J Obstet Gynecol 1987; 156:33.
3. Wright JT, Barrison IG, Lewis IG, et al. Alcohol consumption, pregnancy, and low birthweight. Lancet 1983;2:663.
4. Clarren SK, Smith DW. The fetal alcohol syndrome. N Engl J Med 1978;298:1063.
5. Jones KL, Smith DW, Ulleland CN, Streissguth AP. Pattern of malformation in offspring of chronic alcoholic mothers. Lancet 1973;1:1267.
6. Chasnoff IJ, Burns WJ, Schnoll SH, et al. Cocaine use in pregnancy. N Engl J Med 1985;313:666.

Reply

To the Editors:

We thank Dr. Donvito for his interest in our article. Dr. Donvito inquires whether the concomitant use of cocaine and alcohol in eight of 70 study patients abusing cocaine during pregnancy compared with only one of 70 control patients may explain the observed differences in perinatal outcome between the two groups. Fetal alcohol syndrome is associated with diminished fetal growth and low infant birth weight. However, not all infants exposed to alcohol in utero will develop fetal alcohol syndrome, and alcohol use during pregnancy in the absence of the stigmas of fetal alcohol syndrome has not been shown to be associated with low infant birth weights. None of the infants in our study manifested the characteristic findings of fetal alcohol syndrome.

Exclusion of those patients in the study and control groups admitting alcohol use from data analysis did not eliminate statistically significant differences between the two groups for any of the parameters evaluated. Specifically, mean infant birth weights were 2783 ± 654 and 3398 ± 547 gm in the study and control groups, respectively, after exclusion of patients admitting alcohol use ($p < 0.0001$).

Obtaining a "pure" cocaine study population and matched control population is problematic. First, the majority of cocaine abusers are polydrug abusers. Second, the life-style of the drug abuser, which is not necessarily conducive to maternal or fetal well-being, is simply not comparable to that of the normal pregnant women. As stated in the article, "these data can only be interpreted as demonstrating an association, rather than a causal relationship, between cocaine use and perinatal morbidity."

Scott N. MacGregor, DO
Department of Obstetrics and Gynecology
Evanston Hospital
Evanston, IL 60201

Can a gynecologic *Chlamydia trachomatis* infection be diagnosed by direct observation of an endocervical plain slide?

To the Editors:

Diagnosis of chlamydial infection, a definite cause of pelvic inflammatory disease, by culture or direct immunofluorescence is expensive and time-consuming. We found a correlation between a massive polymorphonuclear leukocyte invasion of the endocervix showing intracellular inclusions and direct immunofluorescent stain of the same endocervical sample showing elementary bodies of *Chlamydia trachomatis*.

In a series of 10 patients with typical inclusions within the leukocytes in the nonfixed endocervical smear (light microscopy ×4 ocular, ×100 oil immersion lens), nine were positive with a species-specific monoclonal fluorescein antibody test to *C. trachomatis*.

Our preliminary data and a previous report[1] suggest that the association of a high incidence of polymorphonuclear leukocytes with intracellular inclusions in the endocervical plain slide is highly suggestive of a *C. trachomatis* infection. In patients with suspected or clinically evident pelvic inflammatory disease, further diagnostic tests such as culture and immunofluorescence are then important. If such an association were confirmed, the cost of the *Chlamydia* diagnosis could be reduced.

Rudy L. De Wilde, MD
Department of Obstetrics and Gynecology
Bethesda Clinic (University of Muenster)
D-5600 Wuppertal 1, Federal Republic of Germany

REFERENCE

1. Kiviat N. Localization of *Chlamydia trachomatis* infection by direct immunofluorescence and culture in pelvic inflammatory disease. Am J Obstet Gynecol 1986;154:865-73.