THE LANCET

Risk of latrogenic fetal infection at prenatal diagnosis

Claudio Giorlandino Elena Bilancioni Paolo D'Alessio Ludovico Muzii

Reprinted from THE LANCET Saturday 9 April 1994 Vol. 343 No. 8902 Pages 922–923

Risk of latrogenic fetal infection at prenatal diagnosis

SIR—Invasive procedures for prenatal diagnosis such as chorionic villus sampling (CVS) or amniocentesis are associated with a risk of introducing maternal blood into the fetal circulation, with the possibility of transmitting a maternal infection to an uninfected fetus. Several cases of bacterial infection have been reported after transcervical CVS.^{1,2} To our knowledge, no case of viral infection after transabdominal sampling has been reported, although the theoretical possibility of transferring viral infections during invasive procedures for prenatal diagnosis has been mentioned.^{3,4} We report two cases of fetal infection diagnosed by polymerase-chain-reaction (PCR) methods during pregnancy.

A 28-year-old woman, 18 weeks pregnant, was referred to our ultrasound unit in April, 1993. She had undergone prenatal diagnosis elsewhere for the detection of *Toxoplasma gondii* in villi and amniotic fluid at 15 weeks because of the presence of specific IgM in maternal serum; the tests were positive with PCR in maternal serum, and negative in the fetal compartments. The ultrasound scan at 18 weeks, however, revealed hydrocephalus. The patient decided to continue the pregnancy to term. Neonatal samples tested positive for *T gondii*.

A 39-year-old woman, at 17 weeks' gestation, had prenatal diagnosis with PCR on villi and amniotic fluid because of evidence of maternal seroconversion for cytomegalovirus; villi and amniotic fluid tested negative for the virus, whereas maternal serum was positive. 2 weeks later, hydrocephalus was evident on ultrasound. The patient preferred to terminate her pregnancy elsewhere. The abortive material tested positive for

cytomegalovirus

We speculate that, in both cases, the infectious agent was transmitted to the fetus at the time of the invasive diagnostic procedure. Indiscriminate use of invasive procedures for prenatal diagnosis may transmit infectious agents to a previously uninfected fetus through an interruption of the protective barrier of the placenta and membranes.

Claudio Giorlandino, Elena Bilancioni, Paolo D'Alessio, Ludovico Muzii

Artemisia Medical Center, Viale Liegi 49, 00168 Rome, Italy; and Department of Obstetrics and Gynaecology, Universita' Cattolica del Sacro Cuore, Rome

- Garden AS, Reid G, Benzie RJ. Chorionic villus sampling. Lancet 1985; i: 1269-70.
- 2 Barela AI, Kleinman GE, Golditch IM, Menke DJ, Hogge A, Golbus MS. Septic shock with renal failure after chorionic villus sampling. Am J Obstet Gynaecol 1986; 154: 1100–02.
- 3 Catanzarite V, Dankner WM. Prenatal diagnosis of congenital cytomegalovirus infection: false-negative amniocentesis at 20 weeks' gestation. Prenat Diagn 1993; 13: 1021-25.
- 4 Towers CV, Chinn DH, Asrat T, Miller EI, Freeman RK. Intraamniotic bleeding following transabdominal amniocentesis. J Maternal Fetal Med 1993; 2: 133-37.