Babies: Measles and malformations . . . selecting the sex

Four viruses vindicated from causing birth defects

In recent years a number of viruses have been suspected of causing serious birth defects in unborn babies. To date one is well documented—the rubella (German measles) virus. Two are fairly well documented—the cytomegalovirus and a herpes simplex virus (also implicated in cancer). As a result of the widespread rubella epidemic of 1964-65, some 30,000 American women gave birth to babies with hearing loss, cataracts or heart malformations. Cytomegalovirus and herpes simplex virus have led to brain damage, deafness, blindness and other malformations of the central nervous system.

Some other viruses have also been tentatively linked with birth defects—the ordinary measles virus (not the same as the German measles virus), the chickenpox virus, the mumps virus and the infectious hepatitis virus. But case reports of their damage have been sporadic and selective, their epidemics have been poorly investigated and case findings by immunological tests have been of doubtful specificity.

Now a thorough study, reported in the Dec. 24-31 JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, vindicates these four viruses from causing birth defects. However the author, Morris Siegel, an environmental specialist at the Downstate Medical Center in Brooklyn, cautions that the viruses can present other types of pregnancy problems.

Siegel designed his study so that he could follow pregnant women as soon as they were infected with chickenpox, measles, mumps or hepatitis. Virus-infected women were matched as soon as possible and as carefully as possible with noninfected pregnant women (controls). The women with virus infection and their matched counterparts were observed throughout pregnancy by a public health nurse, and their babies were examined by a physician shortly after birth and at ages one, two and five years for evidence of birth defects. Altogether 409 infected mothers gave birth to 372 babies, and 409 control mothers gave birth to 393 babies.

Siegel found no apparent difference in the incidence of birth defects between babies born to virus-infected mothers and those born to noninfected mothers. Their total rates were 2.2 percent and 2.3 percent respectively. The rates in specific virus and control groups varied from 1.7 percent to 1.6 percent for mumps, measles and hepatitis and from 3 percent to 3.4 percent for chickenpox. The most common defects, mental retardation and other nervous system problems, as well as multiple cases of deafness, were fairly equally distributed between babies born to infected mothers and those born to noninfected mothers and showed no distinctive concentration by period of pregnancy at onset of disease. In three cases major malformations were associated with viral disease in the last three months of pregnancy, namely mental retardation and mumps at term, deafness and chickenpox at 35 weeks of pregnancy. There was a single case of cataracts, associated with chickenpox in the eighth week of pregnancy. But on the whole, factors other than viruses appeared to have caused these isolated cases of defects because isolated defects cropped up among the control children as well. The only two cases of cardiac defects and mongolism occurred in controls.

Frequency of Major Congenital Malformations in Virus and Control Groups

Maternal Disease	Virus Groups: No. of Children	Virus Groups: Defects No.	Virus Groups: Defects %	Control Groups: No. of Children	Control Groups: Defects No.	Control Groups: Defects %
Chickenpox	135	4	3.0	146	5	3.4
Mumps	117	2	1.7	122	2	1.6
Measles	60	1	1.7	62	1	1.6
Hepatitis	60	1	1.7	63	1	1.6
Total	372	8	2.2	393	9	2.3

Siegel/JAMA

The virus-exposed children had no more defects than the control children.

Siegel believes that mothers who get chickenpox, mumps, measles or hepatitis have no need to contemplate a therapeutic abortion. "I realize that because of the abortion problem this is uppermost in the minds of some people. But since there is no evidence for an increase in defects following these four diseases, therapeutic abortions are not indicated."

Siegel does stress, however, that maternal infection with these viruses can cause harm other than birth defects. Infection increases the chance of premature delivery and fetal deaths. In a 1966 study, he found that hepatitis in the latter half of pregnancy resulted in an increase in prematurity and fetal deaths. This increase was attributed to the greater severity of the disease in the later stages of pregnancy. With measles, there was also a probable increase in prematurity that was due to an early onset of labor. In the case of mumps, an increase in fetal deaths followed onset of the disease in the first three months of pregnancy, which might have been caused by changes in the ovaries. In chickenpox, the ill effects seemed to be minimal, with the exception of an apparent increase in fetal deaths early in pregnancy when the mother's life was threatened. □

Babymaking: Dress them in blue

German biologists have devised a method that may offer couples the option of making a baby boy rather than a baby girl, provided they're willing to reproduce by artificial insemination instead of in the time-honored way. Having the option to make more boys would be a boon to the many men who dream of siring a son, also to the many women who suffer from a worldwide male shortage (men being killed at war and dying earlier than women for other reasons).

A baby's sex is determined by the father, not by the mother. Sperm that contain an X chromosome confer the female sex on the eggs they fertilize. Sperm that contain a Y chromosome confer the male sex on the eggs they fertilize. Since X sperm are richer in DNA (genes) than are Y sperm, they're fatter than Y sperm. A. M. Roberts of