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Editorial

DRUG USE IN PREGNANCY

The knowledge of use of a particular drug or dietary substance during pregnancy is of vital importance for a treating doctor to avoid any untoward effect on the fetus which may either result in permanent effect causing congenital defects or any abnormality or complication which may be a handicap in the neonatal or infancy period. This is due to some of the drugs and dietary substances crossing through the placental barrier, and affecting the fetus. Gross morphological abnormalities are produced at the time of organogenesis esp. in the first trimester of pregnancy; but after this the internal organs, the genitalia, and brain continue to develop and these could be severely affected by some of the drugs.

A history of any drugs taken at conception or during the first trimester should be obtained during the initial clinic visit. Drugs taken during pregnancy should be recorded on the antepartum and intrapartum charts. The attending pediatrician should be duly informed details about such medicines administered. Let us consider some of the commonly prescribed drugs during pregnancy.

As regards treatment of nausea and vomiting of early pregnancy is concerned, it is better to avoid any usage of drug. However, if at all needed the combination of doxylamine succinate and pyridoxine hydrochloride seems to be safer. If additional antiemetic therapy is needed, the

use of Trimethobenzamides or the Phenothiazines for a shorter period seems to be beneficial.

In cases of prescribing analgesics or antipyretics, acetaminophen seems to be the drug of choice. There is insufficient evidence to prove teratogenicity of aspirin in human being. However, it should be avoided in the first trimester.

The greatest puzzle is about the usage of antibiotics during pregnancy.

Penicillins are probably the most widely used class of antibiotics in pregnancy. They have a wide margin of safety and lack of toxicity to both the pregnant woman and the fetus. Penicillin is also the antibiotic of choice in the treatment of numerous bacterial infections including gonorrhoea and syphilis.

Ampicillin, is one of the most frequently used drugs in the treatment of both lower and upper urinary tract infections in pregnancy. Erythromycin can be used only if there is penicillin allergy for treating cases of gonorrhoea or syphilis in pregnancy, as erythromycin estolate has been associated with subclinical, reversal hepatotoxicity during pregnancy. The usage of cephalosporine like cephalexin etc., though extensive is still a newer drug for obtaining still adequate data about possible teratogenicity from various collaborative studies. Chloramphenicol is particularly useful in the treatment of anaerobic infection. But it has been associated some-

times with drug induced aplastic anaemia, and hence while administered requires close hematologic supervision. Tetracyclines have a potential clinical usefulness in many types of infections, including gonorrhoea, syphilis, and pyelonephritis. However, they are not recommended for use in pregnancy because of their adverse fetal and maternal effects. The usage during first trimester did not produce any teratogenic risk. Clindamycin is active against many anaerobic gram positive cocci and is highly effective in the treatment of infections caused by *B. fragilis*, and other anaerobic bacteria. The sulfonamides are the first line of attack in the treatment of urinary tract infections early in pregnancy. Long acting sulfonamides and trimethoprim with sulfamethoxazole have been reported to cause congenital anomalies in experimental animals. However, among large number of infants exposed to sulfonamides during the first trimester of pregnancy, no teratogenic effects were noted. Metronidazole has been used in obstetrics in treatment of vaginal trichomoniasis, amoebic dysentery, and post partum endometritis. Several prospective and retrospective studies failed to show any significant increase in the incidence of congenital defects in the newborns treated under metronidazole during early or late gestation. However, it would be better to avoid this drug during pregnancy unless absolutely necessary. Aminoglycosides such as streptomycin failed to show any teratologic effect in animal studies. In a group of study when the infants were exposed to streptomycin in the first trimester no teratogenic effects were observed. However, in some data available significant ototoxicity was noted in children of mothers who received prolonged streptomycin treatment for tuberculosis during pregnancy. Kanamycin and gentamicin are still suspect. Isoniazid is a useful drug for treatment of tuberculosis during pregnancy. There are no known adverse effects on the fetus. Nitrofurantoin is useful in urinary tract infections and asymptomatic bacteriuria.

17 hydroxyprogesterone caproate is a potent and longacting progestogen. Recent evidence suggests that it may produce hypospadias, given prior to 16th week of pregnancy. Whether it is teratogenic to

the human fetus remains to be determined. Until the teratogenic risks of the said drug have been clearly indentified it should be used with utmost caution during pregnancy.

The problems associated with maternal smoking are concentrated in the earlier weeks and include spontaneous abortions, stillbirth and preterm deliveries, often followed by neonatal death. There is also reduction in fetal growth rate and small for dates babies. In view of this pregnant mothers should be advised not to smoke.

Sufficient evidence exists to state that the fetus of a woman who is a heavy consumer of alcoholic beverages i.e. 3 or more drinks per day is at risk for growth and developmental deficits. The causative agents for these problems remain undetermined, although ethanol is suspect. In view of this alcohol consumption should be completely avoided or reduced considerably during pregnancy.

As regards antihypertensive drugs are concerned, Methyldopa may give rise to hemolytic anemia, meconium ileus in the neonate. Hydralazine gives rise to hypotension, tachycardia, anxiety, lupus like syndrome in mother and tachycardia in fetus. Reserpine is not recommended during pregnancy, as it brings about sympatholytic effects (nasal stuffiness, diarrhoea), sedation, nightmare, parkinsonism in mother, and upper airways stuffiness, respiratory depression, lethargy, anorexia, galactorrhoea, bradycardia.

Vitamins should also be taken only with physician's permission. Large doses of vitamins A and D have been associated with a broad spectrum of congenital abnormalities. Vitamin D with calcium supplementations is unnecessary with adequate nutrition and should be avoided. Patients must be impressed that multiple vitamins are medications and should not substitute for proper nutrition.

Hence it would be better to avoid any medication during first trimester, and use if at all necessary only safer and tried drugs and use very judiciously drugs in second and third trimester of pregnancy.

The practicing doctor must pose a question to himself whether the drug is at all indicated in a pregnant patient and the rationale of using particular drug during pregnancy.

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