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Review Article

AIDS IN PREGNANCY –A REVIEW

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ABSTRACT

Women are among the fastest growing populations of those infected with HIV and AIDS, and most infected women are of childbearing age. Women who are both HIV- positive and pregnant are faced with a double burden both in terms of immunity and nutrition. The HIV- infected pregnant women is at increased nutritional risk compared to the HIV-uninfected pregnant women. HIV-infected pregnant women tend to gain less weight during pregnancy. Micronutrients needs are increased to cover the increased demand of both HIV infected and pregnancy and inadequate intake is common. Micronutrients deficiencies are also common in HIV- infected pregnant women and can have adverse outcomes for both the mother and the developing child. Other nutrition-related considerations for this population include symptom management, the consequences of antiviral therapy, risk of the transmission of the virus through breastfeeding, food safety, and food security. Nutrition assessment and counseling is a critical component of the overall care plan for HIV-infected pregnant women. Counseling regarding weight gain, adequate nutrient intake, management of HIV-related symptoms, drug-nutrient interactions, and the risk associated with breastfeeding should be made available to all HIV-infected pregnant women. The nutrition care plan must aim to promote the best outcomes for both the mother and the developing child. The continuing problem of pregnancy and the growing prevalence of AIDS and other sexually transmitted diseases among women are leading many parents, educators and state lawmakers to advocate sex-education programs that teach, some time exclusively, abstinence as a preventive- health measure. The present study is an attempt to show the dangers involved in motherhood due to AIDS.

Key words: Nutrition-Pregnancy, HIV-AIDS, Pregnancy Outcomes.

INTRODUCTION

AIDS stands for: Acquired Immune Deficiency Syndrome. AIDS is a medical condition. A person is diagnosed with AIDS when their immune system is too weak to fight off infections. Since AIDS was first identified in the early 1980s, an unprecedented number of people have been affected by the global AIDS epidemic. Today, there are an estimated 33 million people living with HIV/AIDS. AIDS is caused by HIV.

HIV is a virus that gradually attacks immune system cells. As HIV progressively damages these cells, the body becomes more vulnerable to infections, which it will have difficulty in fighting off. It is at the point of very advanced HIV infection that a person is said to have AIDS. It can be years before HIV has damaged the immune system enough for AIDS to develop.

HIV is passed from one person to another through contact with infected body fluids. The virus is found in:

- Blood
- Semen
- Vaginal fluids
- Breastmilk

Most people get HIV through sex or sharing needles. Infected babies most often get it from exposure to their mother's blood and vaginal secretions during labor and delivery. Less often, the virus crosses the placenta and infects the baby before birth or the mother passes the virus to the baby after birth in breast milk.

HIV is diagnosed with blood tests. After HIV enters the bloodstream, the body begins to produce disease-fighting antibodies. If a blood test detects these antibodies, the person is "HIV-positive" but does not necessarily have AIDS. A person who is HIV-positive can transmit the virus to others.

The ELISA (Enzyme-Linked Immunosorbent Assay) Test Prevalent tests simply detect the presence of HIV antibodies in human blood, which our bodies produce to fight the invader. The ELISA, the Rapid Simple and the Western Blot tests are currently used to detect HIV. Among these, the ELISA (Enzyme-Linked Immunosorbent Assay) is the most common screening test. After a person tests positive for this, it`s repeated to double-check the result. When an ELISA test yields two or more positive results, the Western blot is used to confirm these results, which is more specific than the ELISA. The two tests combined are more than 99.9 per cent accurate.

SYMPTOMS

Many people do not develop symptoms after they first get infected with HIV. Others have a flu-like illness within several days to weeks after exposure to the virus. They complain of fever, headache, tiredness, and enlarged lymph nodes in the neck. These symptoms usually disappear on their own within a few weeks. After that, the person feels normal and has no symptoms. This asymptomatic phase often lasts for years. The progression of disease varies widely among individuals. This state may last from a few months to more than 10 years. During this period, the virus continues to multiply actively and infects and kills the cells of the immune system. The virus destroys the cells that are the primary infection fighters, called CD4 cells.

TRANSMISSION FROM MOTHER TO BABY

An unborn baby has about a one in four chance of catching HIV if his mother is HIV positive and does not receive any treatment or interventions to stop it. The virus can be transmitted to her baby:

- During pregnancy via the placenta
- During birth through contact with body fluids
- During breastfeeding via breastmilk
- Some prenatal tests should be avoided for HIV positive women example: Amniocentesis involves a needle passing through the mother's abdomen into the uterus which could allow HIV transmission to the fetus.

If a woman is infected with HIV, her risk of transmitting the virus to her baby is reduced if she stays as healthy as possible. New treatments can reduce the risk of a treated mother passing HIV to her baby to a 2 percent or less chance.

Factors which increase the risk of transmission include:

- Smoking
- Substance abuse
- Vitamin A deficiency
- Malnutrition
- Infections such as STD's

- Clinical stage of HIV, including viral load (quantity of HIV virus in the blood)
- Factors related to labor and childbirth
- Breastfeeding
- About 15% of newborns born to HIV-positive women will become infected if they breastfeed for 24 months or longer.

We can prevent infection of newborns

If you are HIV positive, you'll be offered specialist care and regular check ups during your pregnancy. You'll be offered treatment in the form of anti-retroviral drugs. These treatments can greatly reduce the chance of your baby catching the infection from you during pregnancy and birth (Table 1-3).

1) If the father is infected with HIV then recent studies have shown that it is possible to "wash" the sperm of an HIV-infected man so that it can be used to fertilize a woman and produce a healthy baby. These procedures are effective but very expensive.

2) Use antiretroviral medications: The risk of transmitting HIV is extremely low if antiretroviral medications are used. Transmission rates are only 1% to 2% if the mother takes combination antiretroviral therapy ART. The rate is about 4% when the mother takes AZT during the last six months of her pregnancy, and the newborn takes AZT for six weeks after birth. Even if the mother does not take antiretroviral medications until she is in labor, two methods cut transmission by almost half.

- AZT and 3TC during labor, and for both mother and child for one week after the birth.
- One dose of nevirapine during labor, and one dose for the newborn, 2 to 3 days after birth.

Combining nevirapine and AZT during labor and delivery cuts transmission to only 2%. However, resistance to nevirapine can develop in up to 40% of women who take the single dose. This reduces the success of later ART for the mother. Resistance to nevirapine can also be transmitted to newborns through breast feeding. However, the shorter regimens are more affordable for developing countries.

3) Keep delivery time short: The risk of transmission increases with longer delivery times. If the mother uses AZT and has a viral load under 1,000, the risk is almost zero. Mothers with a high viral load might reduce their risk if they deliver their baby by cesarean (C-) section

4) Feeding the Newborn: Up to 14% of babies may get HIV infection from infected breast milk. Breast feeding is controversial, especially in the developing world. Most transmission from breast feeding occurs within the first two months after birth. On the other hand, replacement feeding within can create additional risks for infant mortality from various diseases.

5) Feasibility of replacement feeding: Because HIV can be transmitted through breast milk; a mother's method of infant feeding has a strong influence on the likelihood that her baby will become infected. The only certain way to avoid transmission is to abstain from breastfeeding and provide replacement foods instead. However, even where this is feasible, it is likely to increase the risk to the baby from other illnesses such as malnutrition and diarrhea. Therefore many impoverished mothers are best advised to breastfeed even if they are HIV positive. What should never be recommended is mixed feeding – giving a baby other foods or liquids as well as breast milk – because this carries the greatest risk of HIV transmission.

Replacement feeding is not feasible and safe unless mothers have access to a reliable supply of safe water and fuel, as well as the ingredients for the food itself, and even then it can be time-consuming and expensive.

6) Advantages of a planned pregnancy: A woman who knows that she or her partner is HIV positive before she becomes pregnant is better able to plan ahead. If she does not want to have a child then she should consider effective contraception. If she decides to become pregnant then early interventions may be able to help protect her, her partner and her baby. Doctors will be able to advise which interventions are best suited to her situation, and whether she should adjust any treatment she is already receiving.

Pregnancy does not make a woman's own health worse in respect of HIV.[1] Being pregnant may cause her CD4 count (see below) to drop slightly, but it should return to its pre-pregnancy level soon after her baby is born.

7) Contraception: Many contraceptive choices are available for HIV-infected women Depending on the woman's risk factors, consistent condom use should be emphasized, with or without other methods of contraception, to prevent the transmission of HIV and the acquisition or transmission of other STDs.

Prenatal Care

All of the pregnancy-related complications seen in HIV-uninfected women, such as hypertensive disorders, ectopic pregnancy, psychiatric illness, multiple gestation, preterm delivery, and STDs also can occur in HIV-infected women. These problems must be recognized quickly and treated appropriately to avoid life-threatening complications. Ideally, HIV-infected pregnant women are managed by both an experienced obstetrician-gynecologist and an HIV specialist. Communication between these specialists about medications, expectations, and complications is vital for the health and well-being of both mother and baby. If complications occur or abnormalities are detected, they should be evaluated and treated as indicated by the condition, and referral should be made to a maternal-fetal medicine specialist, if possible.

IMMUNIZATIONS AND OPPORTUNISTIC INFECTION PROPHYLAXIS

Immunizations during pregnancy

Immunizations should be given before pregnancy, if possible. Immunizations should be considered during pregnancy when the risk of exposure to an infection is high, the risk of infection to the mother or fetus is high, and the vaccine is unlikely to cause harm. Some vaccinations (such as measles/mumps/rubella) are contraindicated, and others should be given only if the anticipated benefit of the vaccination outweighs its possible risk.

Some clinicians avoid giving immunizations during the third trimester of pregnancy because vaccinations may cause a transient increase in the HIV viral load and theoretically may increase the risk of perinatal HIV transmission. An increase in viral load may be prevented with effective ART, and some clinicians defer immunizations until ART is under way.

Recommendations related to immunizations during pregnancy are shown in Table 4.

Opportunistic infection prophylaxis

Some OIs can have an adverse effect on pregnancy In turn; pregnancy can affect the natural history, presentation, treatment, and significance of some OIs. Women should be monitored carefully for OIs during pregnancy, with special attention given to nonspecific symptoms such as fatigue, back pain, and weight loss, which may be due to HIV-related illness rather than to pregnancy. Respiratory symptoms in particular merit rapid, aggressive investigation. However, because of the risks of teratogenicity or harm to the developing fetus, some drugs routinely used for prophylaxis of OIs in nonpregnant adults are contraindicated during pregnancy.

SPECIAL CONSIDERATIONS FOR OI PROPHYLAXIS DURING PREGNANCY

Trimethoprim-sulfamethoxazole

Trimethoprim inhibits the synthesis of metabolically active folic acid. In pregnant women, folate deficiency increases the risk of neural tube defects in the developing fetus. Pregnant women, or women who may become pregnant, who are taking trimethoprim-sulfamethoxazole (Septra, Bactrim, cotrimoxazole) have an increased risk of folate deficiency and should be given folate

Table 1: Recommended evaluation and routine monitoring of the pregnant woman with HIV infection: initial and subsequent visits

Initial Visit		Frequency/Subsequent Visits
History		
HIV History	Date of diagnosis	-
	Signs and symptoms	Every visit
	Nadir CD4 and current CD4 cell count; HIV viral load	-
	ARV history, including regimen efficacy, toxicity, and ARV resistance	-
	Opportunistic infections and malignancies	Every visit
	History of genital herpes (HSV-2)	-
	Adherence	Every visit
Obstetric History	Number of pregnancies; complications and outcomes	-
	History of genetic disorders	-
	Use of ARV prophylaxis during previous pregnancies	-
	HIV status of children	-
Current Pregnancy	Last menstrual period (LMP)	-
	Pregnancy: intended or not	-
	Contraceptive methods used, if any	-
	Gestational age (can be calculated in a woman with regular menses, counting weeks from LMP)	Every visit
	Estimated date of delivery	-
	Signs or symptoms of maternal complications: elevated blood pressure, headache, significant edema, gastrointestinal or genitourinary symptoms, vaginal discharge or bleeding, decreased fetal movement	Every visit
	Screen for intimate-partner violence	Every visit
Physical Examination		
General	Vital signs and weight, funduscopy, breast exam	Every visit
Gynecologic	Pelvic exam, STD screening, examination for perineal or vaginal lesions (discoloration, condyloma, ulcerative lesions, vaginal discharge), cervical lesions, discharge or bleeding	As indicated
	Fundal height, correlating with gestational age (concordant between 18 and 30 weeks)	Every visit
	Fetal heart beat and rate: audible with DeLee fetal stethoscope between 16 and 19 weeks, earlier with Doppler devices	Every visit
	Fetal movements and position in third trimester	Every visit
Laboratory Tests		
HIV	HIV enzyme-linked immunosorbent assay (ELISA) with Western blot confirmation (if HIV status is not known) or rapid test and confirmatory test	-
	HIV viral load and CD4 count (total and %)	Every 3 months (at least every trimester) or as indicated
	Fasting lipid measurement	As indicated
	Genotype if ARV naive or detectable HIV RNA while on ART	As indicated
	Cytomegalovirus (CMV) immunoglobulin G (IgG) if CD4 count <100 cells/μL or if at low risk for CMV	-
	Toxoplasmosis IgG	-
	Consider HSV-2 serology, if history suggests	-
General	Complete blood count (CBC); chemistries, liver enzymes (LFTs)	Every 3 months or more frequently based on ARV regimen or symptoms
	Blood group	-
	Rh antibody screen	-
	Rubella antibody	-
	Varicella IgG, if history unclear	As indicated
	Screening for syphilis: rapid plasma reagin (RPR) or Venereal Diseases Research Laboratory (VDRL)	As indicated
	Screening for gonorrhea and chlamydia	As indicated
	Urinalysis and clean-catch urine culture	As indicated
	Papanicolaou smear	As indicated
Hepatitis Serologies	Hepatitis A virus (HAV) antibody (IgG)	-
	Hepatitis B virus (HBV): HBsAg, HBcAb, HBsAb	-
	Hepatitis C virus (HCV) antibody	-
TB Screening	Tuberculin skin test (PPD); more reliable if CD4 >200 cells/μL (induration >5 mm is positive)	-
Disease Specific	G6PD level, especially if anemic	-
	Consider hemoglobin electrophoresis, if anemic and/or at increased risk for hemoglobinopathies	-
	Serum screening for Tay-Sachs disease--both partners--if at increased risk	-
	Urine toxicology screen	As indicated

Table 2: Recommended evaluation and routine monitoring of the pregnant woman with HIV infection: second and third trimesters

Test	Comment
Weeks 16-20	
Ultrasound	Confirm gestational age, screen for malformations, multifetal pregnancy.
Maternal serum alpha-fetoprotein (AFP) or triple screen (human chorionic gonadotropin [HCG], serum estriol, and AFP)	Screen for neural tube and abdominal wall defect, trisomy 21, trisomy 18. Abnormal test requires further investigation--consider amniocentesis only if abnormality is detected on expanded triple screen or level-2 sonogram. Voluntary and requires counseling.
STD screening: gonorrhea, chlamydia, wet mount	Repeat as indicated, according to the woman's risk factors.
Weeks 24-28	
Complete blood count	
Syphilis serology	
Diabetes screening	Consider at 20 weeks: check glucose 1 hour after a 50 g glucose load; perform 3-hour glucose tolerance test if screen is abnormal. If 3-hour test abnormal, perform regular glucose monitoring, especially in women taking protease inhibitors.
Bacterial vaginosis (BV) screening	BV increases the risk of preterm labor.
Weeks 32-36	
Streptococcus B screening	If positive, offer intrapartum chemoprophylaxis.
STD screening: gonorrhea, chlamydia, syphilis	Repeat tests to rule out risk of perinatal transmission of these infections.
CD4 count, HIV viral load	Results obtained at 35-36 weeks guide decisions on the mode of delivery.

Table 3: Recommended evaluation and routine monitoring of the pregnant woman with HIV infection: labor and delivery

Test	Comment
Record Review	• Documentation of HIV serostatus, blood type and Rh, hepatitis serologies, rapid plasma reagin (RPR) • Review of antiretroviral therapy, if any, during pregnancy • Review of HIV viral load results during pregnancy
Physical Evaluation	• Vital signs and fetal heart rate • Frequency and intensity of contractions • Fetal lie, presentation, attitude, and position • Vaginal examination: rule out herpes simplex virus (HSV) lesions; detect ruptured membranes; determine cervical effacement, dilatation, and position • Avoid procedures that increase the risk of perinatal HIV transmission (eg, fetal scalp electrodes, scalp sampling, or assisted rupture of membranes)
Admission Laboratory Tests	• Complete blood count • Liver function tests • RPR or Venereal Diseases Research Laboratory (VDRL), if not done recently • Repeat hepatitis B and C testing, if at risk for acquisition of hepatitis B or C, to prevent perinatal transmission of these infections

Table 4: Immunizations and post exposure prophylaxis in pregnant women with HIV infection

Immunization	Comment
Hepatitis A virus (HAV)	Recommended for susceptible patients at high risk of infection, those with chronic HBV or HCV, those traveling to endemic areas, injection drug users, or in the setting of a community outbreak
Hepatitis B virus (HBV)	Generally recommended for susceptible patients
Influenza	Generally recommended; give before flu season
Measles/Mumps/Rubella (MMR)	Contraindicated
Pneumococcus	Generally recommended, repeat every 5-7 years
Tetanus-diphtheria	Recommended; give booster every 10 years
Immune globulins (For postexposure prophylaxis in susceptible individuals)	Comment
Measles	Recommended after measles exposure, for symptomatic HIV-infected persons
Hepatitis A	Recommended after exposure to a close contact or sex partner, or in case of travel to endemic areas
Hyper immune globulins	Comment
Varicella-zoster virus immune globulin (VZIG)	Recommended after significant exposure to varicella-zoster virus (give within 96 hours)
Hepatitis B immune globulin (HBIG)	Recommended after needlestick or sexual exposure to a person with hepatitis B infection

Table 5: WHO guidelines for PMTCT drug regimens in resource-limited settings

	Pregnancy	Labour	After birth: mother	After birth: infant
Recommended	AZT after 28 weeks	single dose nevirapine; AZT+3TC	AZT+3TC for seven days	single dose nevirapine; AZT for seven days
Alternative (higher risk of drug resistance)	AZT after 28 weeks	single dose nevirapine	-	single dose nevirapine; AZT for seven days
Minimum (less effective)	-	single dose nevirapine; AZT+3TC	AZT+3TC for seven days	single dose nevirapine
Minimum (less effective; higher risk of drug resistance)	-	single dose nevirapine	-	single dose nevirapine

Table 6: Treatment for the mother

Antiretroviral drug class	Abbreviations	First approved to treat HIV	How they attack HIV
Nucleoside/Nucleotide Reverse Transcriptase Inhibitors	NRTIs, nucleoside analogues, nukes	1987	NRTIs interfere with the action of an HIV protein called reverse transcriptase, which the virus needs to make new copies of it.
Non-Nucleoside Reverse Transcriptase Inhibitors	NNRTIs, non-nucleosides, non-nukes	1997	NNRTIs also stop HIV from replicating within cells by inhibiting the reverse transcriptase protein.
Protease Inhibitors	PIs	1995	PIs inhibit protease, which is another protein involved in the HIV replication process.
Fusion or Entry Inhibitors		2003	Fusion or entry inhibitors prevent HIV from binding to or entering human immune cells.
Integrase Inhibitors		2007	Integrase inhibitors interfere with the integrase enzyme, which HIV needs to insert its genetic material into human cells.

supplementation to reduce the risk of neural tube defects. Some experts recommend high doses of folate (eg, 4 mg daily) to overcome the folate antagonism of trimethoprim-sulfamethoxazole. Because neural tube development occurs very early in pregnancy, folate supplementation should be started at least 1 month before conception, if possible.

Genital herpes

Women with HIV infection are more likely than HIV-uninfected women to experience outbreaks of herpes. If herpes simplex virus (HSV) is transmitted to the infant, neonatal infection can be severe, even if it is detected and treated early. Strongly consider obtaining HSV-2 serologies in a woman whose clinical history is unclear. Treatment for symptomatic HSV infections should be offered during pregnancy, and suppressive therapy should be given to women with frequent recurrences. If a woman has an active outbreak of genital HSV or experiences prodromal symptoms at the time of labor or membrane rupture, delivery by cesarean section is indicated. Prophylaxis with oral acyclovir late in pregnancy to prevent neonatal herpes transmission is controversial and is not routinely recommended.

Tuberculosis

Prophylaxis is recommended for any woman with either a positive purified protein derivative (PPD) skin test (≥5 mm induration) or a history of exposure to active tuberculosis, after active disease has been ruled out. Because of concern about possible teratogenicity from drug exposure, clinicians may choose to delay prophylaxis until after the first trimester. Patients receiving isoniazid also should receive pyridoxine to reduce the risk of neurotoxicity.

Toxoplasmosis

All HIV-infected persons should be tested for immunoglobulin G (IgG) antibodies to Toxoplasma soon after HIV diagnosis, and this should be a part of antenatal testing for pregnant women with HIV infection. Women with a negative IgG titer should be counseled to avoid exposure to Toxoplasma (eg, by avoiding raw or undercooked meats, unwashed or uncooked vegetables, and cat feces). Women with previous exposure to Toxoplasma (positive IgG titer) may be given prophylaxis during pregnancy, if indicated. For women who require prophylaxis, trimethoprim-sulfamethoxazole is the preferred agent; some specialists advise against giving pyrimethamine during pregnancy.

PREGNANCY-SPECIFIC COMPLICATIONS AND MANAGEMENT

Nutrition Risk and Inadequate Weight Gain

Maternal nutrition and weight must be monitored throughout the pregnancy. A food diary may be a useful tool in assessing intake, and nutritional counseling is recommended.

Nausea and Vomiting

Women with signs of dehydration should be assessed and treated appropriately in collaboration with the obstetrician or nurse-midwife. Any medication used for nausea and vomiting must be assessed for drug-drug interactions with all HIV-related medications the patient is already taking. Women who are not taking ART at the beginning of their pregnancy usually are assessed and placed on an ARV regimen at the end of the first trimester, when the nausea and vomiting of early pregnancy have improved.

Hyperglycemia

Pregnancy is a risk factor for hyperglycemia, and women treated with protease inhibitors (PIs) may have an even higher risk of glucose intolerance than other pregnant women and must be monitored carefully. New-onset hyperglycemia and diabetes mellitus, and exacerbation of existing diabetes, all have been reported in patients taking PIs. Clinicians should educate women taking PIs about the symptoms of hyperglycemia and closely monitor glucose levels. Some clinicians check glucose tolerance at 20-24 weeks and again at 30-34 weeks if the woman is taking PIs. The baby should be checked for neonatal hypoglycemia at 1 and 4 hours.

Lactic Acidosis

Lactic acidosis is a rare but life-threatening complication that has

been reported in pregnant women taking nucleoside reverse transcriptase inhibitors, particularly didanosine and stavudine. The combination of didanosine and stavudine should be avoided during pregnancy and prescribed only when the potential benefit clearly outweighs the potential risk. Clinical suspicion of lactic acidosis should be prompted by vague symptoms such as malaise, nausea, or abdominal discomfort or pain. Lactate levels, electrolytes, and liver function tests should be monitored carefully, particularly in the third trimester.

Hyperbilirubinemia

Women who are taking indinavir may have an increased risk of nephrolithiasis, but evidence of harm to the newborns has not been demonstrated. Women taking indinavir or atazanavir frequently develop elevated indirect bilirubin, but it is not known whether treatment during pregnancy exacerbates physiologic hyperbilirubinemia in the newborn.

Pain Management

Pain management during labor and delivery may be complicated by drug interactions with ARVs and by the higher medication tolerance in women who have addictions. Additional pain medication may be needed for women with histories of drug use.

Perinatal Considerations

The risk of HIV infection of the fetus during invasive procedures (eg, amniocentesis, chorionic villus sampling, percutaneous or umbilical cord blood sampling) must be balanced against the possible benefits of these procedures. Invasive procedures should be performed only after discussion with and consent from the pregnant woman.

TREATMENT FOR THE MOTHER

Women who have reached the advanced stages of HIV disease require a combination of antiretroviral drugs for their own health. This treatment, which must be taken every day for the rest of a woman's life, is also highly effective at preventing mother-to-child transmission (PMTCT). Women who require treatment will usually be advised to take it, beginning either immediately or after the first trimester. Their newborn babies will usually be given a course of treatment for the first few days or weeks of life, to lower the risk even further (Table 5, 6).

Pregnant women who do not yet need treatment for their own HIV infection can take a short course of drugs to help protect their unborn babies. The main options are outlined below, in order of complexity and effectiveness.

Single dose nevirapine

A single dose of nevirapine given to the mother at the onset of labour and to the baby after delivery roughly halved the rate of HIV transmission. As it is given only once to the mother and baby, single dose nevirapine is relatively cheap and easy to administer.

Triple combinations

The most effective PMTCT therapy involves a combination of three antiretroviral drugs taken during the later stages of pregnancy and during labour. This therapy is essentially identical to the treatment taken by HIV-positive people for their own health, except that it is taken only for a few months, and the choice of drugs may be slightly different.

HIV antiretroviral drug treatment

This is the main type of treatment for HIV or AIDS. It is not a cure, but it can stop people from becoming ill for many years. The treatment consists of drugs that have to be taken every day for the rest of a person's life.

The aim of antiretroviral treatment is to keep the amount of HIV in the body at a low level. This stops any weakening of the immune system and allows it to recover from any damage that HIV might have caused already. The drugs are often referred to as:

- Anti-retrovirals
- Anti-HIV or Anti-AIDS drugs
- ARVs

Taking two or more antiretroviral drugs at a time is called combination therapy. Taking a combination of three or more anti-HIV drugs is sometimes referred to as Highly Active Antiretroviral Therapy (HAART).

If only one drug was taken, HIV would quickly become resistant to it and the drug would stop working. Taking two or more antiretrovirals at the same time vastly reduces the rate at which resistance would develop, making treatment more effective in the long term.

The groups of antiretroviral drugs

There are five groups of antiretroviral drugs. Each of these groups attacks HIV in a different way**.** Anti-retroviral drugs inhibit the growth and replication of HIV at various stages of its life cycle.

First and second line therapy

At the beginning of treatment, the combination of drugs that a person is given is called first line therapy. If after a while HIV becomes resistant to this combination, or if side effects are particularly bad, then a change to second line therapy is usually recommended.

Second line therapy will ideally include a minimum of three new drugs, with at least one from a new class, in order to increase the likelihood of treatment success.

CONCLUSION

The first task in caring for an HIV-infected woman who is pregnant or is considering pregnancy is to provide counseling that will allow her to make informed reproductive choices. Taking a careful reproductive history and providing preconception counseling should be part of any woman's routine primary care. To make informed choices about pregnancy, the patient needs education and information about the risk of perinatal transmission of HIV, potential complications of pregnancy, continuation or modification (or possible initiation) of antiretroviral therapy (ART), and the support she will need to optimize maternal and fetal outcomes.

The risk of vertical transmission was used by health professionals both for discouraging pregnancy and for giving guidance on transmission prophylaxis. However, reproductive issues were not voiced at the health clinics, either by the patients or by the healthcare providers. Attention should be directed not only towards controlling the infection, but also most importantly towards the wellbeing of people living with HIV/AIDS.

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