HIV/Viral Hepatitis Co-Infection: Experience of Viet Nam

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Key Points

◆ There is a lack of data on viral hepatitis and HIV co-infection in Viet Nam. Research in some provinces has shown that prevalence of HCV in IDUs with HIV is 92.2%. Data from Bach Mai shows that among those with HIV, the HCV co-infection rate is 44%, the HBV co-infection rate is 13.4%, and the HIV–HCV–HBV co-infection rate is 7.3%. Co-infection with HBV and HCV was found in 8% of liver patients in Ho Chi Minh City.

◆ Coinfection with HCV, HBV and/or human immunodeficiency virus (HIV) may accelerate liver disease progression.

◆ Screening for HIV, HBV, HCV, malaria and syphilis is carried out for all blood donations in Viet Nam.

◆ Expanded Program on Immunisation (EPI) in Viet Nam introduced the HBV vaccine in 1997. The neonatal HBV vaccination had been implemented in approximately 70% of Viet Nam’s provinces by 2004.

◆ The Vietnamese government has supported harm reduction through needle/syringe exchange.

Map retrieved from http://www.theinterpretersfriend.org/indj/dcoew/Viet Nam.html
1. Introduction

Viet Nam is located in the Western Pacific region with 56 ethnic groups living in 63 cities/provinces and a population of 86 million. Viet Nam has a surface area of 331,210 km$^2$, with 75% of the population living in rural areas. Life expectancy is about 72 years. It estimated that HIV prevalence is 0.53% among the general population (UNAIDS 2009). Injecting drug users in 2004 numbered approximately 170,407 and with an HIV prevalence of 28.6%, IDU is the group most affected (UNAIDS 2009).

2. Epidemiology

2.1 HIV Monoinfection

The first case of HIV infection was reported in 1990 in Ho Chi Minh City. By 1992, only 11 cases had been reported. At the end of the 1990s, the HIV epidemic in Viet Nam was already at the concentrated stage – that is, high prevalence amongst high-risk populations (mainly people who inject drugs [PWID]) and low prevalence in the general population. As of December 2010, there were 228,680 PLWHA. 48,368 people had died, and 42,339 AIDS cases had been reported. HIV incidence in October 2010 was 9,128. It is estimated that Viet Nam will have about 280,000 cases of HIV infection in the year 2015. The HIV epidemic is predominantly drug-related; PWID account for most (53%) of the recorded infections, although this data from surveillance may be incomplete. The epidemic affects mainly young men: 64% of reported cases are men under 29 years of age. Other key populations at high risk include female sex workers (FSW), men who have sex with men (MSM), and male military recruits. The epidemic is now crossing over into patients with sexually transmitted diseases (STD), clients of sex workers and low-risk women (antenatal clinics attendees, hereafter ANC).

2.2 HBV Infection

There is a high prevalence of liver disease in Viet Nam, much of which results from preventable causes, including viral hepatitis chronic infection. Chronic viral hepatitis infection, including hepatitis B virus (HBV) and hepatitis C virus (HCV), can lead to cirrhosis of the liver and to liver cancer. This risk is substantially increased in the absence of appropriate treatment. HIV/HBV co-infection is a problem in Viet Nam. Viet Nam has one of the highest rates of HBV infection in the world: estimated prevalence of anti-HB c (+) is 51.8 - 79.2% in rural areas;
and 10-14% in Ho Chi Minh City (HCMC) and Hanoi. The prevalence of chronic hepatitis B in patients with liver disease is even higher (31.2 – 47% in HCMC); and 80.9% among IDUs. The majority of people in Thai Nguyen, Thai Binh and Thanh Hoa provinces have been exposed to the virus, with an estimated prevalence of anti-HBc (+) that ranges from 51.8% in Thai Nguyen province to 68.2% in Thai Binh province, and to 79.2% in Thanh Hoa province. It is estimated that 10 to 15 million people in Viet Nam are currently living with chronic hepatitis B.

2.3 HCV Monoinfection

Studies have reported intermediate prevalence of HCV in patients without liver disease in Hanoi (4%). In Ho Chi Minh City, the reported prevalence ranges from 2% to 9% in patients without liver disease. A much lower prevalence of only 1% in patients without liver disease has been reported in rural northern Viet Nam and rural Dalat City. As would be expected, the prevalence in patients with liver disease has been reported to be higher. In one study, 23% of liver disease patients in Ho Chi Minh City were reported to be seropositive for HCV antibodies, with detectable HCV RNA in 61% of these. In another Ho Chi Minh City study, the prevalence of HCV in liver disease patients was 19.2%.

2.4 HIV/HBV/HCV Co-Infection

There is a lack of data concerning viral hepatitis and HIV co-infection in Vietnam. Research in some provinces has shown that prevalence of HIV/HCV co-infection among IDUs (n=455) is 92.2%. Data from Bach Mai OPD (n=357) shows that HIV/HCV co-infection is 44%, HIV/HBV co-infection is 13.4%, and HIV/HCV/HBV co-infection is 7.3%. Co-infection with HBV and HCV was found in 8% of liver patients in Ho Chi Minh City.

3. Transmission

3.1 HIV

Country statistics from provinces reported data showing the risk factors for HIV transmission as follows: 49% through blood-to-blood contact; 38% through sexual contact; 3% mother to child; and 10% unidentified.

3.2 HBV

In Viet Nam, recent studies have shown that major risk factors for HBV infection include a history of hospitalisation and a history of acupuncture as well as a
history of surgery. In one recent study, household contact with a person with liver disease, sharing of razors, and the reuse of syringes were all identified as major risk factors for HBV infection, and clear education about such risks needs to be part of any Vietnamese program aimed at reducing transmission. In a study of 309 injection drug users in northern Viet Nam, the prevalence of HBV infection was 80.9%.

### 3.3 HCV

Results from research in Viet Nam show that HCV infection is very common among IDU. The rate of HCV transmission through injecting drug use is 60%; through sexual transmission is 15%; blood transfusion, 10%; occupational exposure, 4%; other (Nosocomial; iatrogenic; perinatal), 1%; and unknown, 10%. A 1994 study found that the prevalence of HCV was particularly high in Ho Chi Minh in patients who required medical treatment that potentially exposed them to blood-borne viruses through contaminated medical devices or blood products, including patients on maintenance hemodialysis (54%) and those with hemophilia (29%).

It has been shown that in intravenous drug users in Hanoi, HCV is acquired relatively quickly after the injecting practices are commenced, with a prevalence of 30% in heroin users with ten or fewer months of injection risk and 70% in those with 30 or more months of injection risk. In a study of 309 intravenous drug users in northern Viet Nam, HCV prevalence was 74.1%.

### 3.4 Impact of HIV/HBV/HCV Co-Infection

Coinfection with HCV, Delta infection and HBV and/or human immunodeficiency virus (HIV) may accelerate liver disease progression, as may alcohol consumption.

- The odds ratio (OR) for liver cirrhosis or cancer and death is observed to be 3.4 (95%CI = 2.45 - 4.73).
- 15-25% HIV-HCV co-infected patients will suffer from cirrhosis, compared with 2-6% of non-HIV positive patients.

### 4. Testing and Diagnosis

#### 4.1 Individual
Screening for HIV, HBV, HCV, malaria and syphilis is compulsory for all blood donations. The principal screening assay for acute hepatitis B and chronic hepatitis B, as well as for the screening of blood and organ donors, is detection of the HBsAg and other HBV markers in serum. Both "rapid" and ELISA tests are used and these have greatly reduced the risk to patients of infection transmission. Utilising the latest and most sensitive tests alongside nucleic acid tests is of the utmost importance. Inexpensive screening for chronic hepatitis B can take place with HBsAg and anti-HBs with a reflex to HBV DNA by PCR for HBsAg-positive patients and vaccination for those who are HBsAg-negative and anti-HBs-negative.

*HIV screening is implemented in all provinces through voluntary testing and counseling (VCT) sites. There is routine screening for donated blood and in ANCs. The diagnosis of HIV infection follows the national guidelines.

* PCR testing for HCV RNA is needed to confirm the diagnosis by detection of viremia conducted in central hospitals.

All HIV/AIDS patients are screening for HBV and HCV before commencing ART.

4.2 Public Health

HIV/HCV/HBV screening is carried out on all donated blood. Volunteers can go to a VCT clinic for HIV testing. All districts throughout the country can do sero–testing for HBsAg. Tests can be transferred to more sophisticated laboratories to confirm diagnosis with better technologies.

5. Management
5.1 Treatment

The oral antiviral drugs currently approved for the treatment of chronic hepatitis B are the nucleoside analogues lamivudine (Epivir-HBV, Zeffix, or Heptodin), entecavir (Baraclude), and telbivudine (Tyzeka or Sebivo); and the nucleotide analogues adefovir dipivoxil (Hepsera) and tenofovir (Viread). The injectable drugs that are approved for treatment of CHRONIC HEPATITIS B include two types of interferon-alpha, the older standard version of interferon-alpha (Intron A), and the more recently approved pegylated form of interferon-alpha (Pegasys) which is now the preferred choice of interferon.

Chronic hepatitis C is treatable and in some cases curable with the combination of interferon and ribavirin. The current standard of care for treatment of CHC is the combination of peginterferon alfa-2a + ribavirin (Pegasys + Copegus) or peginterferon alfa-2b + ribavirin (PegIntron + Rebetol). However, with the most
common genotypes in Viet Nam, including genotype 6, the likelihood of sustained virological response is less likely. In addition, the combination of subcutaneous pegylated interferon with oral ribavirin, continued for 24-48 weeks (depending on genotype), is expensive. It is also the cause of side effects (especially flu-like symptoms and depression) which can lessen some patients' willingness to complete the treatment series. With AIDS patients, Viet Nam follows the national guidelines adapted from the WHO guidelines.

Treatment Options for HBV/HIV Patient Eligible for HIV Treatment (NHTD)

Selection of Treatment Options for HBV/HIV Patient Not Yet Eligible for HIV Treatment (NHTD)
5.2 Support

When patients are diagnosed with HIV/HCV/HBV co-infection and before they start treatment, they are counseled about drug efficacy, side effects, and adherence by counselors or peer-educators available in OPCs or health facilities.

5.3 Prophylaxis

Universal precaution following the guidelines note that restriction from working as a healthcare provider is not justified when these conditions are well managed and the provider practices in a safe, competent way. However, specific recommendations for additional precautions are given based on the presence of infection and the viral load of any provider. Specifically, the guidelines recommend the routine use of double-gloving for all invasive procedures, for all contact with mucous membranes or non-intact skin, and for all instances in patient care for which gloving is recommended for any provider. Medical Care Limitations and Resources for Education, Screening, Vaccination and Treatment

6. Prevention Programs
   6.1 Vaccination

The Expanded Program on Immunisation (EPI) in Viet Nam introduced the HBV vaccine in 1997. But by 2004, neonatal HBV vaccinations had only been implemented in approximately 70% of the provinces. It will be very important to ensure that all hospitals and clinics have in place a written policy for newborn hepatitis B vaccination, and that healthcare providers are knowledgeable about this standard of care. The potential utilisation of HBIG as part of a perinatal HBV transmission protection program can be evaluated as part of this five-year initiative.

It will also be very important to educate both the general public and healthcare providers about all of the risk factors for HBV transmission, such as when blood, semen, or other body fluids infected with the virus enter the body of a person who is not infected.

6.2 Infection Control
Infection control policies in Viet Nam follow the MOH guidelines.

6.3 Prophylaxis for public

The Vietnamese government has supported harm reduction through needle/syringe exchange programs. In 2002, the Vietnamese Ministry of Health initiated a national community-based outreach program for IDUs that includes referrals to pharmacy-based syringe and needle access services, using a modified version of the WHO’s Training Guide for HIV Prevention Outreach to Injection Drug Users.16

Other particularly valuable resources for an effective campaign against HBV and HCV infection are the non-profit health organisations and non-governmental organisations (NGOs) that provide health care in Viet Nam, especially for the poor. In particular, the Viet Nam Red Cross Society plays an important role in providing primary health care at the commune level. All provinces and almost all communes (95.7%) have a Red Cross Society branch that provides services including free health checks for the poor and other vulnerable groups, including children, the elderly, and women.13

In January 2007, Viet Nam’s Law on HIV/AIDS Prevention and Control came into effect, providing the legal foundation for substantially expanded harm reduction services.15 This law specifically calls for the implementation of harm reduction, including promotion of clean needles and syringes (as well as condoms) and medically assisted addiction treatment.

7. References


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<td>Decision issuing &quot;provisions of professional work in HIV testing to ensure safety of blood transfusion&quot;</td>
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<td>WHO Global Alert and Response (GAR) guidelines for Hepatitis <a href="http://www.who.int/csr/disea">http://www.who.int/csr/disea</a> se/hepatitis/en/index.html</td>
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