High incidence of rash after initiating HAART for Post-Exposure Prophylaxis

Alvarez Bognar F, Chan WK, Chan KCW, Tse ICT, Wong KH.
Integrated Treatment Centre, Special Preventive Programme, Centre for Health Protection, Department of Health.

Background

To prevent HIV infection the most effective method is preventing exposure, where human behavior plays a critical role (e.g., adherence to standard infection control, condom use, abstinence from injection-drug use, and consistent use of sterile equipment by those unable to cease injection-drug use)

Highly active antiretroviral therapy (HAART) has been widely prescribed for occupational and non-occupational post-exposure prophylaxis (PEP). In the Hong Kong Special Administration Region the Scientific Committee on AIDS and STI has recommended adopting an integrated care approach, where risk assessment and counseling constitute the basis of post exposure management. If an individual is considered at risk for HIV infection, once a thorough assessment is completed, prescribing antiretroviral chemoprophylaxis should be considered.

In Hong Kong patients reporting an exposure event are first evaluated at one of the local acute emergency departments. After first assessment is completed, and PEP initiated if risk for HIV infection is determined, patients are followed at the Therapeutic Post-exposure Clinic (TPC), Integrated Treatment Centre (ITC) until evaluation is completed and case discharged. The ITC also holds the largest outpatient HIV clinic in the region

Adverse reactions have been well described when antiretroviral drugs are prescribed for HIV infected individuals. However, data are limited on HAART adverse effects in the HIV uninfected host.

Our objective is to study adverse events when HAART prescribed for PEP. For this study rash was the adverse event examined, by analyzing a cohort of patients attending the TPC.

Methods

We studied the frequency of rash with HAART by conducting a chart review at the government TPC, ITC in Hong Kong. The ITC also holds the largest out patient clinic for HIV infected patients. Analysis included all patients undergoing evaluation at the TPC between 01 January 1998 and 31 December 2008. Frequency of rash in this immunocompetent group was compared with a cohort of HIV infected individuals receiving a comparable regimen. For statistical analysis logistic regression was used for categorical and continues variables, also fisher's exact and chi-square analysis were utilized when indicated.

Results

As of December 2008 a total of 3,677 patients were evaluated at the TPC. Forty patients initiated protease inhibitor (PI)-based HAART for PEP (19 indinavir, 14 lopinavir / ritonavir, 7 nelfinavir, all in combination with zidovudine / lamivudine). The median age was 30 years and twenty-five (62%) were men. Twenty-two (55%) reported occupational exposure and sixteen (40%) had a source known to be HIV infected. (Table 1)

Eight TPC patients (20%) developed rash (four each on lopinavir / ritonavir and nelfinavir). The median time from PEP to rash was nine days. Five (62.5%) required either regimen modification or discontinuation due to reported rash. No severe cases were observed in this cohort of patients. However short term hospitalization was required for two cases, for which regimen modification was required and PEP was completed. All cases remained HIV negative at last follow up. (Table 2)

In comparison, 754 treatment-naïve HIV-1 infected patients initiated PI-based HAART in the same centre (276 indinavir, 375 lopinavir / ritonavir, 30 nelfinavir, 73 other PI based HAART, only 9% in combination with zidovudine / lamivudine). Seventeen (2.3%) developed rash after a median of 11 days. All seventeen cases (100%) required treatment modification or discontinuation due to reported rash. Eighty percent were men. The median age was 39 years, median CD4 count was 79/mm^3 and median viral load 180,000 copies/ml. (Table 1 & 2)

Table 1 – Characteristics of patients in this study

	PEP cases at TPC (n=40)	**%**	**HIV+ at ITC (n=754)**	**%**
Age, median	30		39	
Gender, male	25	62.5%	624	82.8%
Exposure type				
-Non-occupational	18	45.0%		
-Occupational	22	55.0%		
Source status				
HIV positive	16	40.0%		
CD4, median			79/mm^3	
VL, median			180,000 copies/ml	
HAART, PI based				
Indinavir based	19	47.5%	276	36.6%
Nelfinavir based	7	35%	30	4%
Lopinavir/r based	14	17.5%	375	49.7%
Other	0	0%	73	9.7

Table 2 – Patients on HAART with documented rash as an advert event

	PEP cases at TPC (n=40)	%	HIV+ at ITC (PI, n=754)	%	P value	95% CI
Develop rash after HAART was initiated	8	20.0%	17	2.3%	<0.001*	(4.38-26.97)
Rash with HAART leading to treatment modification or discontinuation	5	62.5%	17	100%	0.024†	(2.04-9.51)
Time to event (days)						
Mean	8.38		36.35		0.270^	(0.77-1.08)
Median	9		11			
Age group						
Mean	29.8		41.71		0.030^	(0.79-0.99)
Median	25.0		39.00			
Gender					0.472^	(0.32-12)
F	3		4			
M	5		13			

^ By logistic regression at 95% confidence interval, † by Fisher's exact test at 95% confidence interval, * by Chi square test at 95% confidence interval

Conclusions

PEP is widely prescribed when individuals, after occupational or non-occupational exposure, are considered at risk for HIV infection. In 1996, the first U.S. Public Health Service recommendations for the use of PEP after occupational exposure to HIV were published. Recommendations for PEP after non-occupational exposure followed years later.

It has been documented that rash occurrence is below 5% when lopinavir / ritonavir or nelfinavir based HAART is prescribed for the HIV infected host. In our study rash is a relatively frequent adverse event when HAART based on lopinavir / ritonavir or nelfinavir is given for PEP. However, treatment discontinuation or modification due to rash was not required for all cases.

When caring for patients at risk for HIV infection and PEP is being prescribed, we must remember adverse events for this group differ from those previously described for the immunocompromised hosts.