

Incidence, Genotype Distribution, and Prognosis of Sexually Transmitted Acute Hepatitis C in a Cohort of HIV-infected Patients

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Background / Objective

Objective:

In view of recent reports about sexually transmitted HCV infection among MSM, we wanted to assess its incidence, genotype (GT) distribution, and prognosis in our cohort.

The results presented here represent an updated analysis of the data submitted in the original abstract.

Methods

We analyzed all subjects in the ICH Hamburg non-selective observational cohort (n= 4700), in which clinical follow-up and diagnoses, antiretroviral medication, and extensive laboratory data is documented prospectively. The analysis in the abstract submitted was based on the total cohort population. For this updated current analysis, cases observed until December 31st, 2009, were included, and the analysis was confined to MSM (78% of the cohort population).

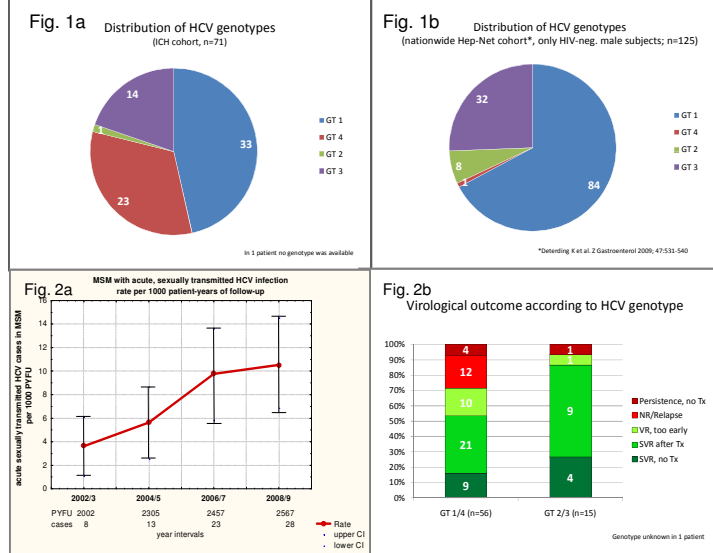
Cases were defined by a sudden rise in ALAT/ASAT during regular (usually three-monthly) follow-up in conjunction with a newly positive HCV serology or HCV RNA result. Patients with reinfections were only counted once.

Rate ratios (cases per 1000 patient years of follow-up (PYFU)), and 95% confidence intervals were calculated for two-year intervals until December 31st, 2009.

The genotype distribution was compared with a nationwide cohort of HIV-negative individuals with acute hepatitis C (ref. see figure 1).

Table 1: Patient characteristics at HCV diagnosis (n=72)

		range / %
Median age (range, years)	41	25-66
CD4+ (cells /μL)	520	121-1064
HIV RNA (log copies/ml) on HAART	2.0	1.3-5
cases with HIV-RNA <50 c/mL	56	78 %
HIV-RNA <400 c/mL	36	50 %
documented past -ve HCV serology	49	68 %
HCV serology	60	83 %
- positive	70	97 %
- never positive (HCV-RNA+)	2	3 %
HCV RNA (IU/ml)	872500	165-101000000
HCV genotype 1 a/b	33	47 %
(see fig.1)	2 a	1 %
3/3a	14	20 %
4	23	33 %
missing	1	1 %
peak ASAT (GOT) U/mL	262	29-2388
peak ALAT (GPT) U/mL	475	15-4217



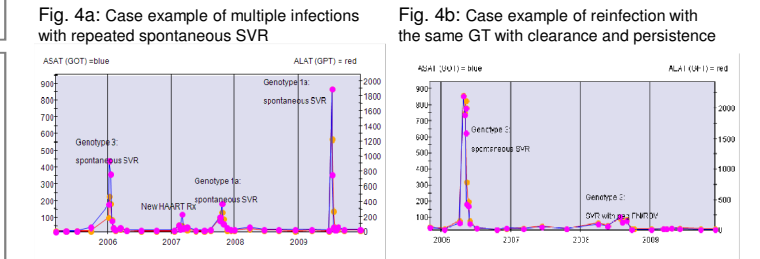
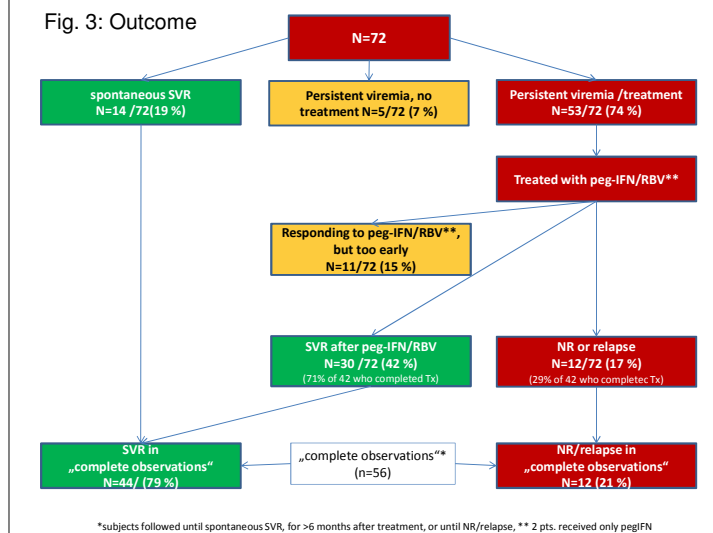
Results

72 cases of acute hepatitis C in MSM were identified between January 1st, 2002 and December 31st, 2009. Two additional cases in intravenous drug users and one in an HIV-negative MSM (GT 4) were excluded. 70 cases had a positive HCV serology, in 2 only HCV PCR was positive. 60 pats had a documented previous negative HCV serology. At HCV diagnosis, 56 patients were on HAART (78 %). HCV GT 4 was overrepresented when compared with HIV-negative men in an independent nationwide cohort of acute hepatitis C (see fig. 1a and b).

Total cohort follow-up from first to last presentation/death was >30000 PYFU. After excluding observation years without a documented patient contact (i.e. at least one CD4+ cell count or HIV RNA value), follow-up was reduced to 14180 PYFU. After excluding all non-MSM, the subsequent analysis was based on 10199 PYFU of MSM. Incidence rates increased over time, from 3.6 (2002/3) to 10.5 per 1000 PYFU (2008/9), between 5- and 20-fold higher than for the total cohort (see fig. 2a).

51 patients received peg-IFN with ribavirin, 2 only peg-IFN, starting a median of 90 days after HCV diagnosis (4-1078) and for a median Tx duration of 312 days (110-726).. Treatment response was best for GT 3 and comparable for GTs 1 and 4. (fig 2b). The overall SVR rate was 44 of those 56 subjects for whom follow-up was long enough (79 %, patient outcome depicted in fig. 3).

Reinfections occurred in 8 individuals (11 %), in 7 with a different GT and in 1 with the same GT (see case examples fig. 4a and b).



Summary and Conclusions

- Sexually transmitted acute hepatitis C cases increased since 2001.
- Infection occurred despite high CD4+ T-cell counts, very low to undetectable viremia, and regardless of HAART. These factors did not appear to have an impact on outcome.
- Infection can eventually be cleared spontaneously or by Tx in most patients.
- The high prevalence of GT 4 in comparison to a nationwide HIV-negative cohort argues for regional differences in the epidemic.
- Reinfections are common and can persist even after previous spontaneous clearance of the same genotype.
- This raises concerns regarding recommendations supporting unprotected sexual contacts with or among HIV-infected partners with undetectable HIV plasma viremia. Prevention counselling should include HCV transmission.