Antibody Prevalence of Parenterally Transmitted Viruses (HIV-1, HTLV-I, HBV, HCV) in Austrian Intravenous Drug Users

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Abstract
From 1985 to 1990 the sera of 372 recently imprisoned intravenous drug users (IDU) were tested for HIV-1 antibodies. The seroprevalence was 18 %, males 16 % and females 31 %. HIV-1 seroprevalence in Austrian IDU has not increased since 1986. All sera tested for HTLV-I-antibodies were negative. The majority of the HIV-1 seropositive drug users had been infected before 1985. The reported frequency of needle sharing has decreased since 1986. Of 151 IDU tested for HCV antibodies 75 % were positive for anti-HCV, 68 % were positive for hepatitis B markers, 59 % were positive both for HBV and HCV markers, and 13 % were positive for HIV-1 antibodies. In conclusion: In Austrian IDU HIV-1 seroprevalence has not increased since 1986; HTLV-I infection has not yet entered; HCV seems to be the most frequent parenterally transmitted virus.

Introduction
The purpose of this study was 1.) to examine the course of HIV-1 antibody prevalence since 1985 in Austrian intravenous drug users (IDU) 2.) to find out whether human T-cell leukemia virus type I (HTLV-I) has entered the population of Austrian IDU and 3.) to test the prevalence of antibodies against hepatitis C virus (HCV) in comparison with hepatitis B markers and anti-HIV-1 in IDU. In addition we intended to
collect data on risk behaviour of imprisoned IDU and on possible exposure to infection with these viruses during detention.

**Materials and Methods**

In the Sonderanstalt Wien-Favoriten, a penal institution with therapeutic facilities for male drug addicts, from 1985 to 1990 all newly admitted prisoners were offered blood tests for markers of hepatitis B (HBs-antigen, anti-HBc, anti-HBs), anti-HIV-1 and alanin aminotransferase (ALAT). From 1986 to 1988 the same blood tests were offered to female prisoners in the penal institution Schwarzau. 97% of all male prisoners and 98% of male IDU and 98% of female prisoners underwent the offered blood tests. Medical history was focussed on drug use and risk behaviour for parenteral virus infection. 661 prisoners, 419 men and 242 women, were examined, 327 of the men and 45 of the women had a history of intravenous drug use. Median age was 27 years (18 to 44 years) and 25 years (19 to 35) for male and female IDU respectively. The sera of 270 male prisoners, 151 of them intravenous drug users, were tested for anti-HTLV-I (Serodia ATLA, Fujirebio Inc., Tokyo, Japan) and anti-HCV (Ortho HCV antibody ELISA system) as well. Anti-HIV-1 was assayed with the Abbot Recombinant HIV-1 EIA, the confirmation test was Western blot (Institute of Virology Vienna).

**Results**

**HIV-1 antibody prevalence:** None of the 289 prisoners who never had used drugs intravenously and also none of the female prisoners who had been engaged in prostitution and never had injected drugs were positive for HIV-1 antibodies. HIV-1 antibody prevalence data of newly imprisoned IDU from 1985 to 1990 is shown in table 1. The overall prevalence is 18%, 16% for male and 31% for female IDU. Since 1986 there has been no increase of anti-HIV-1 prevalence rates in this population.