

# Prevalence of hepatitis C virus antibodies in the general population and in selected groups of patients in Limoges, France

S Ranger, P Martin, M C Roussanne, F Denis

## Abstract

**In this study of hepatitis C virus (HCV) infection prevalence in France, the prevalence of antibodies to HCV (as tested by second generation ELISA, with RIBA-2 confirmation in ELISA 2 positive samples) was found to be low (0.3%) in the healthy general population. HCV infection prevalence increased in the general population in association with African or Asian origin and risk factors such as bisexuality, previous history of transfusion, and intravenous drug abuse. The prevalence of anti-HCV infection was also higher in specific patient groups infected with HIV or a history of transfusion or haemodialysis.**

(Gut 1993; supplement: S50-S51)

In order to evaluate the risk factors for hepatitis C virus (HCV) infection, an epidemiological study was carried out to determine the seroprevalence of anti-HCV antibodies, both in the general population and in selected groups of patients, in Limoges, France.

## Subjects and methods

The healthy general population consisted of 32556 subjects, including 30893 blood donors, 1089 pregnant foreign residents and 574 organ donors. The selected groups of patients consisted of 232 patients positive for HIV-1 infection, 370 patients negative for HIV infection but with risk factors for infection

TABLE Influence of risk factors on anti-HCV seroprevalence among HIV infected patients and controls

Risk factor	HIV infected (%)	Controls (%)
Sexuality		
homosexual	4.2	3.2
heterosexual	5	2.5
bisexual	15.6	2.3
Blood		
intravenous drug abuse	82.7	50
transfusion	41.7	4.5
Other	25	

(control group), and 702 patients receiving haemodialysis.

Blood samples were collected between 1985 and 1992, centrifuged, frozen immediately, and stored at  $-20^{\circ}\text{C}$ . All patients were screened for anti-HCV antibodies using the second generation ELISA (ELISA 2, Abbott GmbH Diagnostika, Wiesbaden, Germany), with the second generation RIBA (RIBA-2, Chiron Corporation, Emeryville, CA, USA) as a confirmatory test in ELISA 2 positive samples. Statistical analysis was carried out using the  $\chi^2$  test.

## Results

The seroprevalence of anti-HCV in the healthy general population was found to be 0.29% in blood donors, 0.87% in organ donors, and 1.47% in pregnant foreign women. The results for the different patient populations are shown in the Figure. Further analysis of the geographical origin of the pregnant foreign women living in Limoges showed a correlation between region and anti-HCV positivity, with the highest prevalence among women from sub-Saharan Africa (4.76%) and the lowest among those from Europe and the USA (0%). Women from north Africa and Asia showed a similar positivity rate (1.94% and 1.78%, respectively). Among the various risk factors analysed, there was found to be a link between anti-HCV positivity and both HIV positivity and transfusion (Table).

## Discussion

The healthy general population in this study showed a low prevalence of seropositivity for anti-HCV (0.3%). This result is similar to values obtained in various European countries.<sup>1</sup> Anti-HCV seroprevalence is increased, however, in subjects from certain geographical areas, particularly in those of black African

Department of  
Bacteriology-Virology,  
Hôpital Dupuytren,  
Limoges, France  
S Ranger  
P Martin  
F Denis

Transfusion Centre,  
Limoges, France  
M C Roussanne

Correspondence to:  
Professor F Denis,  
Department of  
Bacteriology-Virology,  
Hôpital Dupuytren,  
Limoges, France.

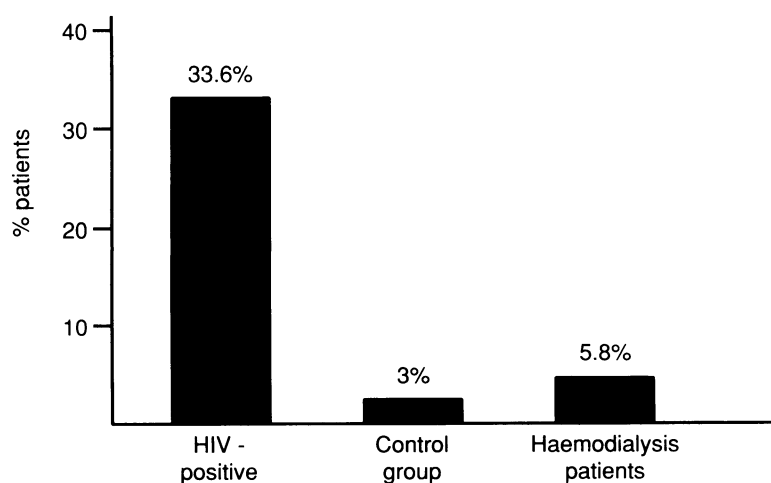


Figure Anti-HCV seroprevalence among patient groups.

origin.<sup>2</sup> Positivity rates for anti-HCV also varied with risk factor for viral exposure, increasing slightly with bisexuality, and strongly in those with a previous history of blood transfusion, or intravenous drug abuse. Among the specific patient groups, those who were HIV positive were more often anti-HCV positive than HIV negative patients with the same risk factor.<sup>3</sup> This was particularly noticeable in the intravenous drug abuse group and in those who had received blood

transfusions. Patients receiving haemodialysis also showed a higher anti-HCV seroprevalence than the general population.

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- 2 Aussen L, Denis F, Ranger S, *et al.* Prevalence of antibodies to the hepatitis C virus in pregnant foreign residents of France. *Pathol Biol* 1991; **39**: 991-6.
- 3 Ranger S, Aussen L, Weinbreck P, *et al.* Prevalence of antibodies to hepatitis C virus in HIV seropositive patients. *Pathol Biol* 1991; **39**: 126-30.