Hepatitis C virus markers in patients with acute post-transfusion hepatitis treated with interferon alfa-2b

J Genesca, J I Esteban, J Quer, L L Viladomiu, A Gonzalez, R Esteban, J Guardia

Abstract

This trial was undertaken to establish the long term biochemical and serological outcome of patients with acute post-transfusion hepatitis C virus infection after treatment with interferon alfa-2b. After 12 months, 12 patients (eight treated, four controls) had self limited disease and 16 patients (seven treated, nine controls) had chronic disease. After a total mean 31 months of follow up in 23 patients, nine (six treated, three controls) had self limited disease while 14 (five treated, nine controls) developed chronic liver disease; all patients with spontaneous or self limited hepatitis C (HCV) infection maintained normal serum alanine aminotransferase activity and absence of HCV-RNA, and tended to lose anti-HCV antibodies.

(Gut 1993; supplement: S62-S63)

A randomised, controlled trial was undertaken to determine the long term biochemical and serological outcome of patients with acute post-transfusion HCV infection treated with interferon alfa-2b (INTRON A).

Patients and methods

Twenty eight patients with acute HCV (15 treated and 13 controls) were included in the trial. Interferon (IFN) alfa-2b was given subcutaneously during the first three months after the start of disease, at a dose of 3 million units (MU) three times weekly. Initial follow up ended at 12 months, but 23 patients (11 treated and 12 controls) were also followed up from 12 months to a mean of 31 (range 24-38) months. Five patients with chronic liver disease received a further 12 month course of 3 MU IFN after the initial 12 month follow up (Figure). Assessments included serial serum alanine aminotransferase measurements, anti-HCV antibody tests (second generation ELISA (ELISA 2, Ortho) and second generation RIBA (RIBA 2, Ortho)), and HCV-RNA by polymerase chain reaction (PCR).

Results

At the initial 12 month follow up, 12 patients (eight treated, four controls) had self limited (single alanine aminotransferase peak) disease, and 16 patients (seven treated, nine controls) had chronic disease. Of the 23 patients

Figure Study design.

followed up for a total mean period of 31 months, nine (six treated and three controls) had self limited (single alanine aminotransferase peak) disease at 12 months, while 14 (five treated and nine controls) developed chronic liver disease (Table I). All three self limited patients who were negative on ELISA 2 remained anti-HCV negative throughout, although two were HCV-RNA positive in the acute phase. During final follow up, all those with spontaneous or self limited hepatitis C maintained normal serum alanine transferase activities and absence of HCV-RNA, and tended to lose anti-HCV antibodies as detected by ELISA-2 and RIBA-2. In these patients, anti-c-33c was the last antibody to disappear.

Only one (20%) of the five patients with chronic disease who received a further 12 month course of interferon maintained abnormal alanine aminotransferase activity,

TABLE I Biochemical and serological results at 12 months

	Self limited disease (n=9)	Chronic disease (n=14)
Raised alanine aminotransferase	0*	11 (78%)*
ELISA-2 positive	6 (66%)*†	14 (100%)*
RIBA-2 positive	5 (55%)*	14 (100%)*
RIBA-2 indeterminate	1 (11%)*	0

*p<0.05.

†The three ELISA 2 negative patients did not develop anti-HCV; two were HCV-RNA positive in the acute phase.

Liver Unit,
Department of
Internal Medicine,
Hospital General
Universitario Valle de
Hebrón,
Barcelona, Spain
J Genesca
J I Esteban
J Quer
L L Viladomiu
A Gonzalez
R Esteban
J Guardia

Correspondence to:
Dr J Genesca,
Liver Unit,
Department of Internal
Medicine,
Hospital General
Universitario Valle de
Hebrón,
Barcelona, Spain.

but all remained anti-HCV positive and most continued to have detectable HCV-RNA. Eight (89%) of nine patients with chronic disease who received no further treatment with interferon continued to have raised alanine aminotransferase activity and remained anti-

HCV positive on both tests (Table II). These eight patients had antibodies against all four antigens in the RIBA 2 (5-1-1, c-100-3, c-33c and c-22-3).

Conclusions

Patients with spontaneous or IFN induced self limited HCV maintained normal alanine aminotransferase and absence of HCV-RNA during final follow up and tended to lose anti-HCV antibodies (as detected by ELISA 2 and RIBA 2). Anti-c-33c was the last antibody to disappear in self limited cases. Patients who developed chronic HCV infection maintained raised alanine aminotransferase activity and remained ELISA 2/RIBA 2 positive.

TABLE II Biochemical and serological results at the end of final follow up†

	Self limited disease (n=9)	Chronic disease (n=9)	Chronic disease with interferon (n=5)
Raised alanine aminotransferase	0*	8 (89%)*	1 (20%)
ELISA 2 positive	5 (56%)‡	9 (100%)	5 (100%)
RIBA 2 positive	3 (33%)*	9 (100%)*	4 (80%)
RIBA 2 indeterminate	3 (33%)	0	1 (20%)

*p<0.05

†HCV-RNA was negative in all self limited cases but was positive in most chronic cases.

‡Four of five ELISA 2 positive patients had ELISA ratios <2.