Background: The efficacy of serum alanine aminotransferase (ALT) levels in predicting the severity of hepatitis C virus (HCV) infection is unclear. 

Objective: To compare histologic scoring of liver pathology in patients with chronic HCV infection with normal or elevated serum ALT.

Methods: Liver biopsies were performed in patients with HCV infection and either normal (n=40) or elevated (n=76) serum ALT levels, and scored for activity and fibrosis using the modified histological activity index.

Results: Patients with normal ALT and elevated ALT had similar demographic features. Median (range) histological activity grade was higher in patients with elevated ALT than in those with normal ALT (6 [1-15] vs. 5 [0-11], respectively; p=0.001), as was the fibrosis stage (2 [0-6] vs. 1[0-6]; p=0.02). Two patients with normal ALT and 4 with elevated ALT had liver cirrhosis.

Conclusions: Among patients with chronic HCV infection, liver lesions are milder in those with normal serum ALT levels than those with abnormal ALT levels. However, some patients with normal ALT too may have advanced liver disease. [Indian J Gastroenterol 2005;24:49-51]
secutive serum levels below the upper limit of normal. Using this definition, we found that stage and grade of liver disease was lower among patients with persistently normal serum ALT. Nutt et al.\(^6\) found that mean (SD) HAI scores were 4 (2) among patients with normal serum ALT levels and 7 (3) among patients with elevated levels. Corresponding figures were 2.96 (1.62) and 5.39 (2.81) in another case-control study.\(^7\) Our findings are similar to those in previous studies, which found that patients with normal ALT values had milder liver damage than those with abnormal ALT values.\(^6\)-\(^13\)

In our study, 5% of patients with normal ALT level had cirrhosis and 3% percent had bridging fibrosis. In the study by Nutt et al.\(^6\) these figures were 11% and 9%, respectively. However, in another study of patients with normal serum ALT,\(^7\) none had cirrhosis and only 3.1% had bridging fibrosis. In a recent study, only 4% of patients with persistently normal ALT had chronic hepatitis and only 1% had cirrhosis.\(^13\) Mathurin et al.\(^14\) showed that in HCV RNA-positive patients with normal ALT values, the progression to fibrosis was slower than that in patients with elevated ALT.

There is disagreement on whether HCV-infected persons with normal ALT values warrant treatment.\(^15\),\(^16\) In the study by Nutt et al.\(^6\) 46% of patients with normal serum ALT levels had histological activity index more than 5, compared to 86% of patients with elevated ALT levels. Our findings were similar to these in that normal serum ALT levels do not exclude histological findings that might constitute an indication for antiviral therapy. Thus, regardless of the serum ALT level, the decision to initiate therapy should be based on the severity of liver disease on histology.\(^2\)

In conclusion, though persistently normal ALT levels among patients with chronic hepatitis C are associated with milder histological activity and fibrosis, these do not exclude presence of advanced liver disease.

### References

12. Renou C, Halfon P, Pol S, Cacoub P, Jouve E, Bronowicki JP, \textit{et al.} Histological features and HLA class II alleles in hepatitis C virus chronically infected patients with persis-

Correspondence to: Dr Daryani, Gastroenterology Unit, Imam Khomeini Hospital, Tehran, Iran. E-mail: nebrahim@sina.tums.ac.ir
Acknowledgement: The authors thanks Dr Farid Azmoodeh, Pathology Department, Imam Khomeini Hospital, Tehran University of Medical Sciences for assessment of biopsy specimens
Received July 6, 2004. Received in final revised form December 29, 2004. Accepted January 9, 2005

News and Notices

Postgraduate Clinics in Gastroenterology 2005 will be held in Lucknow April 1 and 2, 2005
For details, contact: Dr. Ujjal Poddar, Department of Gastroenterology, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow 226 014.
Phone: (522) 266 8700 Extn 2418/2419
Fax: (522) 266 8017 or 266 8078
E-mail: ujjal@sgpgi.ac.in

A single-theme conference on Alcohol in Gastroenterology will be held in Lucknow April 3, 2005
For details, contact: Dr Uday C Ghoshal, Department of Gastroenterology, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow 226 014.
Phone: (522) 266 8700 Extn 2405/2406
Fax: (522) 266 8017 or 266 8078
E-mail: ghoshal@sgpgi.ac.in

The 3rd World Conference on Prevention and Treatment of Caustic Esophageal Burns in Children and Pediatric Thoracic Surgery will be held in Turkey April 15-17, 2005
For details, contact: Prof Oktay Mutaf, Ege University Hospital, 35100 Izmir, Turkey.
Fax: +90 (232) 375 4990
E-mail: omutaf@ege.edu.tr
Website: www.pediatriktoraks.org/pages/5/index.htm

A National Conference of Pancreatology will be held in New Delhi August 6 and 7, 2005 under the aegis of India Pancreas Club
For details, contact: Prof Rakesh Tandon, E 154 Saket, New Delhi 110 017.
Phone: (11) 2696 8304, 2656 9559
Fax: (11) 2925 0548, 2925 0985
E-mail: rakesh_tandon@hotmail.com

The 3rd S R Naik Memorial Workshop on Computers in Biomedical Sciences will be held in Lucknow August 27 and 28, 2005
For details, contact: Dr Uday Chand Ghoshal, Department of Gastroenterology, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow 226 014.
E-mail: ghoshal@sgpgi.ac.in

Current Perspectives in Liver Diseases – 2005 (Intensive Care Therapy in Liver Disease) will be held in Chandigarh September 24 and 25, 2005
For details, contact: Prof Yogesh Chawla, Department of Gastroenterology, Postgraduate Institute of Medical Education and Research, Chandigarh 160 012

The Asia Pacific Digestive Week – 2005 (theme "Rediscovery of Asia for Gastrointestinal Diseases") will be held in Seoul, Korea September 25-28, 2005
For details, contact: Prof Jin-Ho Kim, Secretary General, University of Ulsan, #1510 Hyosung Olympic County II, 175-12, Chamisil-dong, Songpa-gu, Seoul, 138-220, Korea
Phone: +82 (2) 412 0673
Fax: +82 (2) 412 0674
E-mail: jhkm@amc.seoul.kr
Website: www.APDW2005.org

The 28th National Conference of the Association of Colon and Rectal Surgeons of India and 9th Advanced Institutional Course in Coloproctology will be held in Lucknow October 4-9, 2005
For details, contact: The Organizing Secretary, ACRSICON – 2005, Department of Surgical Gastroenterology, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow 226 014.
Phone:(522) 266 8700, 266 8800, 266 8900 Extn 2401, 2423 (O)
Fax: (522) 266 8017, 266 8078
E-mail: acrsi2005@yahoo.co.in, akgupta@sgpgi.ac.in

The Asia Pacific Digestive Week – 2005 (theme "Rediscovery of Asia for Gastrointestinal Diseases") will be held in Seoul, Korea September 25-28, 2005
For details, contact: Prof Jin-Ho Kim, Secretary General, University of Ulsan, #1510 Hyosung Olympic County II, 175-12, Chamisil-dong, Songpa-gu, Seoul, 138-220, Korea
Phone: +82 (2) 412 0673
Fax: +82 (2) 412 0674
E-mail: jhkm@amc.seoul.kr
Website: www.APDW2005.org

The 28th National Conference of the Association of Colon and Rectal Surgeons of India and 9th Advanced Institutional Course in Coloproctology will be held in Lucknow October 4-9, 2005
For details, contact: The Organizing Secretary, ACRSICON – 2005, Department of Surgical Gastroenterology, Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow 226 014.
Phone:(522) 266 8700, 266 8800, 266 8900 Extn 2401, 2423 (O)
Fax: (522) 266 8017, 266 8078
E-mail: acrsi2005@yahoo.co.in, akgupta@sgpgi.ac.in