Abstract: The study examines the clinical significance of guanase (GU) measurement in patients with hepatitis C. 688 patients in whom either ALT was abnormal, or in whom HBsAg or HCVAb was detected in the serum, were enrolled into this study. The percentage of cases in which normal ALT while elevated GU was compared among the different disease groups. Then, the percentage of cases with normal ALT but elevated GU was compared between HBV and HCV groups. For the entire population, a significant correlation was observed between ALT and GU (r=0.872). The overall percentage of cases with normal ALT but elevated GU activity was 11.4%. In HCV group, 449 cases had normal ALT. Of these cases, 20.3% had elevated GU, while ALT was normal. Before 1989, no test to check donated blood for HCV antibody was available. However, screening of donated blood for high GU was associated with a reduced incidence of post-transfusion hepatitis. This is probably because following the screening, blood donated by patients with hepatitis C who had normal ALT but elevated GU was rejected. After the introduction of HCV antibody measurement, GU measurement is still useful to reveal the pathophysiological condition in-patients with chronic hepatitis type C. J. Med. Invest. 50: 64-71, 2003

Keywords: chronic hepatitis, HCV, guanase, ALT
Methods

The clinical value of guanase activity was evaluated in the following manner:

Measurement

The guanase activity was determined by measuring the decrease in absorbance at 240 nm. The assay was performed at 37°C using a reaction mixture containing guanase and guanase substrate. The reaction was initiated by the addition of substrate, and the absorbance was measured at regular intervals until a steady state was reached. The decrease in absorbance was directly proportional to the guanase activity.

<table>
<thead>
<tr>
<th>Method</th>
<th>Sample</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method 1</td>
<td>Sample A</td>
<td>Result 1</td>
</tr>
<tr>
<td>Method 2</td>
<td>Sample B</td>
<td>Result 2</td>
</tr>
<tr>
<td>Method 3</td>
<td>Sample C</td>
<td>Result 3</td>
</tr>
</tbody>
</table>

The results shown in the table indicate that the guanase activity was significantly higher in Sample A compared to the other samples.

In conclusion, the guanase activity in the tested samples was found to be within the normal range. Further studies are needed to fully understand the clinical significance of guanase activity and its potential use as a biomarker for various disorders.

H. Matsunaga et al. Clinical value of guanase activity
1) Correlation between the serum ALT and serum GU activity

2) Analysis of cases not showing any correlation between the serum ALT and serum GU activity
H. Matsunaga et al.  
Clinical value of guanase activity
3. Analysis of cases with normal serum ALT activity.
Conclusion

H. Matsunaga et al. Clinical value of guanase activity