S-adenosyl-methionine and betaine improve early virological response in chronic hepatitis C patients with previous nonresponse

Magdalena Filipowicz, Christine Bernsmeier, Luigi Terracciano, Francois H T Duong & Markus H Heim

BACKGROUND/AIMS
Treatment of chronic hepatitis C (CHC) with pegylated interferon α (pegIFNα) and ribavirin results in a sustained response in approximately half of patients. Viral interference with IFNα signal transduction through the Jak-STAT pathway might be an important factor underlying treatment failure. S-adenosyl-L-methionine (SAMe) and betaine potentiate IFNα signaling in cultured cells that express hepatitis C virus (HCV) proteins, and enhance the inhibitory effect of IFNα on HCV replicons. We have performed a clinical study with the aim to evaluate efficacy and safety of the addition of SAMe and betaine to treatment of CHC with pegIFNα/ribavirin.

METHODS
In this open-label pilot study, 29 patients with CHC who failed previous therapy with (peg)IFNα/ribavirin were treated with SAMe, betaine, pegIFNα2b and ribavirin. Treatment duration was 6 or 12 months, depending on genotype, and the protocol comprised a stopping rule at week 12 if early virological response (EVR) was not achieved. Virological and biochemical response and safety were assessed throughout the treatment.

RESULTS
29 patients were enrolled and treated according to the study protocol. 79% of the patients were infected with genotype 1, 72% had advanced fibrosis, 76% had previously received pegIFNα/ribavirin, and only 14% achieved EVR to the previous treatment. When treated with the study medications, 17 patients (59%) showed an EVR, only 3 (10%) however achieved a sustained virological response (SVR). SAMe and betaine were found to be safe when used with pegIFNα/ribavirin.

CONCLUSION
The addition of SAMe and betaine to pegIFNα/ribavirin improves early virological response in CHC.
TRIAL REGISTRATION
ClinicalTrials.gov NCT00310336.

<table>
<thead>
<tr>
<th>type</th>
<th>journal paper/review (English)</th>
</tr>
</thead>
<tbody>
<tr>
<td>date of publishing</td>
<td>08-11-2010</td>
</tr>
<tr>
<td>journal title</td>
<td>PLoS ONE (5/11)</td>
</tr>
<tr>
<td>ISSN electronic</td>
<td>1932-6203</td>
</tr>
<tr>
<td>pages</td>
<td>e15492</td>
</tr>
</tbody>
</table>