Evaluation of Adverse Effects of Sodium Stibogluconate in the Treatment of Visceral Leishmaniasis (Kala-Azar)

Dr. Md. Abdu Sattar Miah ¹
Dr. A R M Saifuddin Ekram ²
Dr. Md. Azizul Hoque³
Dr. Md. Abdus Salam ⁴
Dr. A B M Saiful Alam ⁵
Dr. Md. Zahirul Haque ⁶
Prof. A K M Rafiqueuddin ⁷
Objectives

- To evaluate the adverse effects of sodium stibogluconate in the treatment of Visceral leishmmaniiasis.
Research design and method

- **Study type**
  Descriptive cross sectional study.

- **Study place**
  Department of Medicine, Rajshahi Medical College Hospital.

- **Study population**
  All patients with visceral leishmaniasis admitted into Rajshahi Medical College Hospital during the study period.

- **Sample size**
  30 who fulfilled the inclusion and exclusion criteria.
Results

Out of 30 patients, 19 patients (63.33%) developed abnormalities in ECG, among them 14 patients (46.67%) developed prolonged QTc, 6 patients (20%) developed T-wave inversion and 1 patient (3.33%) developed transient first degree heart block. No patient developed symptomatic arrhythmia.
# ECG changes among the Kala-azar patients treated with SAG

<table>
<thead>
<tr>
<th>Components of ECG</th>
<th>1st day</th>
<th>7th day</th>
<th>14th day</th>
<th>21st day</th>
<th>28th day</th>
<th>After treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
</tr>
<tr>
<td>P-wave</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PR interval</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>ST segment</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>T-wave</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>QT&lt;sub&gt;c&lt;/sub&gt;</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>1</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>Ventricular ectopic</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>VT</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Torsades de Pointes</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>VF</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>VT</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Results

- Five patients (16.67%) developed transient rise of bilirubin, 11 patients (36.67%) developed raised SGPT. None of them developed clinical hepatitis.

- 23 patients (76.67%) developed raised serum amylase but none developed clinical pancreatitis.

- There was no change in renal function. No adverse effects were noted on complete blood count.
Discussion

- Studies in India and Africa have reported frequent adverse cardiac events among patients, treated for VL using Sb\textsuperscript{v} cardiac toxicity was not observed among 96 American military personnel with predominantly CL who were treated with pentostan\textsuperscript{TM} formulation of Sb\textsuperscript{v}.
DISCUSSION

- In this study, abnormalities developed in the ECGs of 19 (63.33%) patients. These were asymptomatic in all patients. We also observed among the whole study group that there was prolongation of QTc interval in 14 patients (46.67%). No patient developed clinically any obvious arrhythmia. But we cannot exclude the possibility that any of these asymptomatic patients had silent arrhythmias; continuous 24 hour ECG monitoring would have been required to investigate this.
Conclusion

- Sodium stibogluconate can be used safely in Kala-azar patients with adequate monitoring.

- Identification of factors before and during treatment that may increase the risk of QTc prolongation and arrhythmia is important for prevention of deadly complications.
1. Dr. Md. Abdus Sattar Miah
MD (Internal Medicine)
Final Part Student
Department of Medicine
Rajshahi Medical College, Rajshahi.

2. Dr. A R M Saifuddin Ekram
FCPS (Medicine), FACP, PhD, FRCP
Professor (C.C.) and Head,
Department of Medicine
Rajshahi Medical College, Rajshahi.

3. Dr. Md. Azizul Hoque
MD (Internal Medicine)
Associate Professor,
Department of Medicine
Rajshahi Medical College
Rajshahi.

4. Dr. Md. Abdus Salam,
MSc, PhD
Associate Professor,
Department of Microbiology,
Rajshahi Medical College
Rajshahi.

5. Dr. A B M Saiful Alam
FCPS (Medicine)
Assistant Professor
Department of Medicine
Rajshahi Medical College
Rajshahi.

6. Dr. Md. Zahirul Haque
FCPS (Medicine)
Assistant Professor
Department of Medicine
Rajshahi Medical College
Rajshahi.

7. Prof. A K M Rafiqueuddin
Professor and Head,
Department of Medicine
Enam Medical College, Savar
Dhaka.
THANK YOU