DEVELOPMENT AND IN-VITRO CHARACTERIZATION OF LOTEPRERONOL ETABONATE-LOADED POLYMERIC NANOPARTICLES FOR OCULAR DELIVERY

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PROBLEM DESCRIPTION

Low ocular bioavailability

Less than 5% biomolecule get reaches into the targeted tissue

Rapid washout by tear and nasolachrimal drainage

Irritation at site of action

Systemic Toxicity

Frequent dosing

Patient non-compliance.
OBJECTIVE

- Develop Loteprednol etabonate loaded biodegradable polymer coated nanoparticulate carrier for ocular administration
- Prolonged drug release
- To increase ocular therapeutic profile of drug by increasing corneal contact time
- To bypass the systemic side effects of pulsed dosing produced by conventional system
- Improve patient compliance
## RESULTS AND CONCLUSION

<table>
<thead>
<tr>
<th>Formulation code</th>
<th>Drug polymer ratios</th>
<th>Particle size (nm)</th>
<th>Polydispersity index</th>
<th>Zeta potential (mV)</th>
<th>Drug Entrapment</th>
</tr>
</thead>
<tbody>
<tr>
<td>NP-LE1</td>
<td>1:1</td>
<td>471.7</td>
<td>0.266</td>
<td>-9.10</td>
<td>68.18 ± 1.6</td>
</tr>
<tr>
<td>NP-LE2</td>
<td>1:1.5</td>
<td>271.7</td>
<td>0.170</td>
<td>-10.07</td>
<td>85.48 ± 2.1</td>
</tr>
<tr>
<td>NP-LE3</td>
<td>1:2</td>
<td>481.5</td>
<td>0.230</td>
<td>-8.10</td>
<td>73.13 ± 1.1</td>
</tr>
<tr>
<td>NP-LE4</td>
<td>1:2.5</td>
<td>362.8</td>
<td>0.160</td>
<td>-10.12</td>
<td>79.17 ± 4.8</td>
</tr>
</tbody>
</table>

Polymeric nanoparticle containing loterprednol etablonate is successfully prepared for ocular drug delivery application.
- Optimized formulation exhibit extended release profile.
- Improved therapeutic profile with patient compliance
- Formulation are stable in different temperature.
Acknowledgment

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References


