IncobotulinumtoxinA (Xeomin®, Merz Pharmaceuticals GmbH) is a highly purified formulation of botulinum toxin type A without complexing proteins. Because of its advanced manufacturing process, incobotulinumtoxinA contains only the pure neurotoxin, and the vials can be stored at room temperature for up to 3 years prior to reconstitution.

The safety and efficacy of incobotulinumtoxinA for aesthetic indications has been established in multiple studies.

An increasing body of clinical literature demonstrates that incobotulinumtoxinA also has the same performance and duration of treatment effect as onabotulinumtoxinA though 4 months.

Although individual studies have been reported, a combined assessment of incobotulinumtoxinA safety across studies is not available.

The objective of this pooled analysis was to assess the frequency of adverse events (AEs) across randomized, prospective, controlled incobotulinumtoxinA studies in aesthetic indications: glabellar frown lines (GFL), crow’s feet (CF), and upper facial lines (UFL).

### METHODS

**Study Selection**
- Data source: Integrated database of Merz-sponsored studies
- Neurological indications were excluded
- Analyses were separated into single- and repeat-dose studies (Figure 1)
- Single-dose: those with only a single treatment of incobotulinumtoxinA was provided in a placebo- or active-controlled setting or without any control
- Repeat-dose: those in which subjects received multiple treatments with incobotulinumtoxinA over ≥2 cycles; however, subjects who for any reason received only 1 incobotulinumtoxinA treatment in a repeat-dose study were also included in the safety analyses

**Assessments**
- Single-dose studies:
  - Overall incidence of adverse events (AEs), treatment-related AEs, and serious treatment-related AEs
  - Most frequent AEs (≥2% frequency in any group)
  - Most common treatment-related AEs (≥2 subjects in any group)
  - Occurrence of adverse events of special interest (AESIs), defined as those possibly indicating toxin spread
- Repeat-dose studies:
  - Overall incidence of AEs, treatment-related AEs, and serious treatment-related AEs by treatment cycle

**CONCLUSIONS**
- Overall, these results support and extend the generally favorable safety and tolerability profile of incobotulinumtoxinA for the treatment of GFL, CF, and UFL.
- There were no new or unexpected safety findings, and no treatment-related serious AEs were observed.
- Incidence of treatment-related AEs in all studies was low, and the severity was mostly mild to moderate.
- Subjects in the UFL study received 20 separate injections across 3 areas of the upper face with a total dose of incobotulinumtoxinA 2–3 fold higher than for CF or GFL individually.
- This combined treatment of UFL remained well tolerated, with a similar AE profile as the individual treatment areas and no marked increase in AE incidence and/or severity.
- No subjects treated with incobotulinumtoxinA demonstrated new formation of neutralizing antibodies and no secondary treatment failure occurred.

**REFERENCES**

1. Coleman Cosmetic Dermatologic Surgery Center; Metairie, LA, USA; 2. Rosenpark Klinik; Darmstadt, Germany; 3. Merz Pharmaceuticals GmbH; Frankfurt am Main, Germany; 4. Merz North America, Inc.; Raleigh, NC, USA

**RESULTS**

### Table 1: GFL Single-Dose Studies: Most Common Treatment-related AEs (≥2 subjects in any group)

<table>
<thead>
<tr>
<th>Treatment-related AEs</th>
<th>Xeomin or CF</th>
<th>Placebo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Headache</td>
<td>44 (6.5)</td>
<td>10 (1.2)</td>
</tr>
<tr>
<td>Muscle disorder</td>
<td>7 (1.0)</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>Brow ptosis</td>
<td>6 (0.9)</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>Injection site bruising</td>
<td>5 (0.7)</td>
<td>1 (0.3)</td>
</tr>
<tr>
<td>Eyelid edema</td>
<td>2 (0.3)</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>Facial asymmetry</td>
<td>1 (0.1)</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>Discoloration</td>
<td>3 (0.4)</td>
<td>1 (0.3)</td>
</tr>
<tr>
<td>Pruritis</td>
<td>2 (0.3)</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>Hematoma</td>
<td>1 (0.1)</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>Contusion</td>
<td>2 (0.2)</td>
<td>1 (0.1)</td>
</tr>
</tbody>
</table>