Medium-addition, centre-near, silicone hydrogel multifocal lens compared to monovision: performance, adaptation and preference

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Introduction
Multifocal (MF) and monovision (MonoV) are widely used to correct presbyopia with soft lenses. Studies relying solely on objective measures to assess performance found MonoV to perform better than MF, while those using both objective and subjective assessments found that the MF provided the most acceptable performance.

Aim
To evaluate the objective and subjective performance of a multifocal correction compared to monovision correction in a group of habitual contact lens wearers requiring medium level reading-additions (+1.25 to +2.00 D).

Method
Studies in variable/changeable as or ision hile ie ing the TV?

Task VAS: during each 2 week phase, after completing specific tasks, VAS responses were provided via a BlackBerry®. Change over time VAS: the same VAS questionnaire was answered on days 3, 7 and 12 of each phase, via a BlackBerry®. Preference: at final visit subjects answered a forced choice preference question and listed any symptoms.

Results

Objective, vision measures at 2-weeks

<table>
<thead>
<tr>
<th>Task</th>
<th>MonoV</th>
<th>MF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading (50)</td>
<td>0 0 4</td>
<td>2</td>
</tr>
<tr>
<td>Televission (50)</td>
<td>0 1 4</td>
<td>0</td>
</tr>
<tr>
<td>Shopping (50)</td>
<td>0 1 3</td>
<td>0</td>
</tr>
<tr>
<td>Driving (50)</td>
<td>0 5 3</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>8 8 26</td>
<td>2</td>
</tr>
</tbody>
</table>

Study design: masked, crossover, randomised, 2-wks wear. Subjects: 49 habitual soft lens wearers, add 4 to 2.00 D. Contact lenses: Multifocal: lotrafilcon B, centre near design; Monovision: lotrafilcon B, aspheric, single vision design. Objective assessments: acuity and stereopsis were measured at dispense visit and after 2 weeks of lens wear.

Over time: VAS scores on days 3, 7 and 12

- MF statistically better than MonoV for High contrast distance and near vision
- MF statistically better than MonoV for High contrast intermediate vision
- No statistical difference for low contrast intermediate and near stereopsis

Conclusions
- Objective vs subjective results: MonoV provided the better objective performance. Perhaps this is why many practitioners believe that monovision offers a higher success rate. Subjective task and preference data are statistically equivalent with a trend favouring MF. This poor agreement between objective & subjective test results indicate it is not possible to decide on the success based on objective tests alone.
- Influence of habitual mode: 30% habitual MF wearers and 30% habitual MonoV wearers preferred the alternate modality at the end of the study. This suggests that in clinical practice it may often be worth trialing an alternate modality. In addition, habitual modality should be considered carefully as an entry criteria to studies as it may influence the outcome in 70% of cases. Of those who habitually wore SV CLs with readers, 60% preferred MFs, 40% MonoV.

References