Improved response and remission rates in patients receiving IDgenetix-guided medication management for major depressive disorder

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Background

- Pharmacogenomics (PGx) offers the opportunity to select effective therapies based on a patient's genotype. The majority of PGx tests only report drug-gene interactions and, thus, do not integrate significant drug-drug and lifestyle factors in medication recommendations.
- IDgenetix is a PGx test that uses a prospectively designed algorithm to incorporate the results of a 15-gene variant panel with drug-drug interaction data and lifestyle factors to provide medication recommendations for patients diagnosed with major depressive disorder (MDD), anxiety, or other mental illnesses.
- As shown in the boxes below, the current 'trial and error' standard of care has produced disappointing response, remission, and adverse event rates.

Objective

- Evaluate the performance of IDgenetix-guided medication management in a real-world clinical outcome study of patients with moderate to severe depression compared to the current standard of care treatment.

Methods

- IRB-approved, single-center, open-label study.
- Study data was collected prospectively for the PGx-guided group (n=120) and retrospectively for the control group (n=122).
- All subjects met inclusion criteria of moderate or severe depression, measured as a PHQ-9 score of 10 or greater at baseline, and a follow-up visit with a PHQ-9 assessment at 8 weeks following baseline.
- Response and remission rates across study groups were compared using the chi-squared test and analysis of covariance while adjusting for baseline.

Results

**a. Patients Achieving Response at 8 Weeks**

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<thead>
<tr>
<th>Patients with Depression (%)</th>
<th>Unguided</th>
<th>Guided</th>
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<tbody>
<tr>
<td>43%</td>
<td>58%</td>
<td>p-value = 0.02</td>
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**b. Patients Achieving Remission at 8 Weeks**

<table>
<thead>
<tr>
<th>Patients with Depression (%)</th>
<th>Unguided</th>
<th>Guided</th>
</tr>
</thead>
<tbody>
<tr>
<td>19%</td>
<td>31%</td>
<td>p-value = 0.02</td>
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**Figure 1. Response (a) and Remission (b) rates for patients with moderate or severe depression in the unguided (n=122) or guided (n=120) groups. The percentage of patients achieving response (p=0.02) and remission (p=0.01) at 8 weeks was higher in the guided vs. unguided groups. Study groups were matched on age, gender, and baseline PHQ-9 scores.**

**Figure 2. Risk ratios of remission rates in PGx-guided vs. unguided groups from a real-world study (‘) and a randomized controlled trial (’).**

**Conclusion**

- Consistent with Bradley et al. 20182, results from this real-world study demonstrate that PGx-guided medication management using IDgenetix significantly improved response (35% increase) and remission (64% increase) rates for patients diagnosed with moderate to severe depression.

**Clinical Impact**

- IDgenetix-guided medication management integrates drug-gene, drug-drug, and lifestyle factors to provide a comprehensive PGx profile of patients with MDD.
- Treatment recommendations from IDgenetix significantly increase response and remission rates in patients with moderate to severe depression.

**References**


Acknowledgment and Disclosure

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