The Clinical Utility of Combinatorial Pharmacogenomic Testing for Patients with Depression: A Meta-Analysis

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REFERENCES:

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RESULTS

• Patient outcomes were significantly improved for patients with MDD whose care was guided by the specific combinational pharmacogenomic test results compared to unguided-care (Figure 1).

• Heterogeneity in effect size across studies was significant, but moderate, for symptom improvement, but was not significant for response and remission.

• When the open-label studies were assessed separately, symptom improvement and response were significantly improved in the combinational pharmacogenomic guided-care group versus unguided-care group.

• When the analysis was restricted to RCTs, all 3 evaluated outcomes were significantly improved in the combinational pharmacogenomic guided-care group versus unguided-care group.

METHODS

• The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Guidelines were utilized for this meta-analysis.

• A systematic search was performed, and all identified reports were screened to identify two-arm, prospective studies evaluating the clinical utility of this specific test that included patients ≥18 years of age diagnosed with MDD who had at least 1 prior medication failure.

• Overall, 1,556 patients were included from 4 studies [2 open-label studies and 2 randomized controlled trials (RCTs)].

• All included studies assessed symptom improvement, response, and remission using the 17-item Hamilton Depression Rating Scale (HAM-D17).

• The pooled mean effect of symptom improvement and pooled relative risk ratio of response and remission were calculated using a random effects model.

• Meta-analyses provide a high level of evidence and can be useful in evaluating the overall utility of a testing approach for clinical use.

• Given the meaningful differences between tests, all tests need to be evaluated separately and meta-analyses should be performed for each individual pharmacogenomic test.

• We present the results of a meta-analysis of prospective, two-arm studies examining the clinical utility of using the combinational pharmacogenomic test, GeneSight® Psychotropic, to inform treatment decisions for patients with MDD who had at least one prior medication failure.

• This meta-analysis adds to the body of evidence supporting the clinical utility of using GeneSight® Psychotropic to inform medication selection for patients with MDD who have failed at least 1 medication. 1

CONCLUSION

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CONCLUSION

• In a meta-analysis of 4 independent studies, all outcomes were significantly improved for patients in the GeneSight® Psychotropic guided-care arm versus unguided-care.