Researchers explore personalized pharmacotherapy to treat panic attacks

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Although drug therapy is the accepted first-line treatment for panic disorders (PDs), 17% to 64% of patients do not respond adequately and continue to exhibit one of the most common symptoms of PD, the panic

attack (PA). In a comprehensive new analysis published in *Personalized Medicine in Psychiatry*, researchers carefully reviewed scientific data to establish whether a personalized treatment approach could help physicians prescribe the drug that will work most effectively for a specific patient.

"The major goal of a personalized treatment approach is to tailor interventions according to each patient's unique profile and characteristics," explained lead investigator Daniela Caldirola, MD, PhD, of the Department of Clinical Neurosciences, Hermanas Hospitalarias, Como, Italy, "Although still a challenging issue for clinicians, a personalized approach, based on reliable predictors of pharmacotherapy course, may provide relevant advances in the treatment of psychiatric disorders. PD, a common and debilitating psychiatric condition, could greatly benefit from such an approach, because from a clinical perspective there is still a strong unmet need for more efficacious pharmacological interventions in this disorder."

Several medications are effective for treating PD, including selective serotonin reuptake inhibitors (SSRIs), serotonin-norepinephrine reuptake inhibitors (SNRIs), tricyclic antidepressants (TCAs), and benzodiazepines. However, in short-term clinical trials, 17%-64% of participants with PD did not respond adequately to pharmacotherapy and continued to have PAs and/or exhibited negative behavior related to PAs.

After a careful review of more than 1,000 studies, investigators identified 22 randomized, placebo-controlled studies of three drugs, paroxetine, venlafaxine XR, and alprazolam, suitable for inclusion in this meta-analysis. The primary goals were to identify sociodemographic and clinical characteristics that clinicians can easily evaluate in clinical practice before beginning treatment, i.e., gender, age, duration of PD, presence/severity of agoraphobia, number of the PAs, severity of the

disorder, and severity of general anxiety/depressive symptoms, and both clinical outcomes and tolerability of FDA-approved medications for PD.

"To the best of our knowledge, this is the first meta-analysis with this aim. In case of significant results, clinicians could use these variables as predictive tools to maximize therapeutic efficacy and minimize side effects of antipanic treatments according to each patient's characteristics," noted Dr. Caldirola.

The meta-analysis provided very limited support for the moderating effects of sociodemographic and clinical variables on short term clinical outcomes and tolerability of paroxetine, venlafaxine XR, and alprazolam in treatment of PD. However, researchers found three important correlations: (1) longer illness duration was significantly associated with lower rate of patients free from PAs at the end of trials that compared venlafaxine XR to placebo, (2) higher age at the beginning of trials that compared paroxetine to placebo was significantly associated with higher rate of patients who dropped out of the studies because of adverse side effects, and (3) the longer the treatment, the higher the rate of patients free from PAs at the endpoint of RCTs with venlafaxine XR.

Contributing to the advancement of the emerging field of personalized psychiatry in PD, the results will be useful for future studies on this topic and help to overcome the paucity of available data and shortcomings of current pharmacological studies in PD.

"Our research does underscore the fact that, in the realm of pharmacotherapy for PD, reliable conclusions regarding the usefulness of sociodemographic and clinical variables as moderators of outcomes cannot yet be drawn," commented Dr. Caldirola. "The personalized approach to pharmacotherapy for PD, although at an early stage, appears to be the most promising way for increasing, within a reasonable timeframe, the rate of successful outcomes in this disorder, similar to

trends in other fields of medicine, like oncology."

More information: Daniela Caldirola et al, Personalized medicine in panic disorder: where are we now? A meta-regression analysis, *Personalized Medicine in Psychiatry* (2017). DOI: 10.1016/j.pmip.2016.12.003

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