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## DBS IN TREATMENT-RESISTANT DEPRESSION

C. Delimpalata, C. Zampetaki, E. Varouchaki, A. Zampogiannis

National and Capodistrian University of Athens, Athens, Greece

Introduction: Of patients with depression, up to 20-30% are treatment-resistant. DBS is being investigated as a novel therapeutic modality that could be effective in this group.

Objective and aims: Summary of clinical experience with DBS for treatment-resistant depression.

Methods: Review of published literature.

Results: DBS is undergoing trials for use in patients with major depression unresponsive to pharmacotherapy, cognitive therapy and electroconvulsion. Targets include the subcallosal cingulate gyrus, the nucleus accumbens, the anterior limb of capsula interna, the hibernula and the lower thalamus stem, areas shown by PET-scan studies to be crucial in development of depression, anxiety and anhedonia.

In published studies, more than 50% of patients have responded or entered remission, as observed by score drops in the Hamilton and Montgomery-Asberg Depression Rating Scales, results that have been sustained over time. Post-op scans of responsive patients demonstrate reduction of both blood flow and metabolic hyperactivity in aforementioned areas- especially the cingulate gyrus- and other cortical and subcortical regions, and an increase in prefrontal blood flow, suggesting that DBS acts by disrupting pathological activity and normalizing function in near and adjacent circuits.

DBS is reversible and adjustable with rare complications: wound skin infections, headaches and hemorrhage, while temporary mood changes, paresthesias, anxiety and autonomic disturbances are easily treated with stimulation adjustments.

Conclusions: DBS has shown promise as new therapeutic means for unresponsive patients. With clinical trials multiplying and neuroimaging providing insight for possible targets, its applications are to become more common in resistant depression and other psychiatric disorders.