Electroconvulsive Therapy Compared to Pharmacotherapy in Treatment in the Adult Population with Severe Depression

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Research Question
How does electroconvulsive therapy compare to pharmacotherapy in the treatment of adults with severe depression?

Background
• Electroconvulsive therapy is a treatment that is used for psychological disorders when pharmacological interventions are insufficient in the treatment of these disorders. (Kellner et al., 2012)
• ECT has a 50-70% chance of success in patients that have not had a response to traditional therapy for depression. (Pfieffer et al., 2011)
• ECT works by sending an electric shock to the brain, which causes a series of seizures that correct and enhance mood and behavior for the patient. (Kellner et al., 2012)
• The exact mechanisms of ECT are not known. (Kellner et al., 2012)

Review of Literature
• With ECT, GABA levels increase, and ratings on the Hamilton Depression Scale decrease. (Burgese 2003)
• With ECT, Plasma Cortisol levels are lowered (Burgese 2003)
• With ECT, a decrease in score on the Beck Depression Inventory (Burgese 2003)
• With ECT, suicidal thoughts and ideations are significantly lowered. (Pfieffer 2011)
• Results were based on personal testimony and remission was present in 69.9% of participants. (Kellner 2005)
• Visual-spatial functioning, verbal auditory memory, and working memory and executive functions tests were conducted. Tests on memory showed a temporary impairment, but became much improved over baseline over the course of three months. (Bodnar 2015)
• Drug regimens alone do not always have a positive influence on suicidal rates. 4.2% of patients on a drug deemed satisfactory commit suicide and 7% of patients who are on inadequate medications commit suicide. (Kellner 2005)
• ECT is vastly underused, for example, only being utilized in 0.16% of patients with major depressive disorder in the Veterans Health Administration. (Pfeiffer, P. 2011)
• Side effects often prohibit the use of ECT in patients, including headaches, confusion, and temporary memory loss experienced by, in one study, 85% of participants (Anonymous 2005)

Levels of Evidence
• 8 of our articles reviewed are Level II (Individual experimental studies with randomization of the participants); (Burgese 2003), (Kellner 2005), (Bodnar 2015), (Anonymous 2005), (Allen 2015), (Pluijms 2002), (Sanacora 2003), (Tsaiatas 2010)
• 1 of our articles was a Level 4 of evidence (Non-experimental, comparative study); (Pfieffer 2011)
• 1 of our articles was a level 5 of evidence (Review of literature); (Kellner 2012)

Conclusions
• ECT is highly effective in patients that show no signs of improvement with pharmacotherapy.
• ECT is useful in lowering thoughts of suicide and suicidal ideations in patients with severe depression.
• Despite the side effects of headaches and cognitive impairment, ECT has still proven to be effective in the long run.

Recommendations for Practice
• For patients with severe depression and suicidal intentions, ECT should be the first treatment rather than pharmacological interventions.
• ECT could be a good alternative for patients who experience severe side effects with their psychotropic medications.
• ECT should be used in patients that are not responding to anti-depression medications.
• Patients that are currently on an anti-depression drug therapy that is successful should stay on those drugs rather than switch to ECT.