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Acetylcholine Esterase Gene Expression in Salivary Glands of Albino Rats after Treatment with amitrintvline or/and Ashwasandha

ABSTRACT

Acetylcholinesterase is required as an enzyme to counteract the effects of acetylcholine. The aim of the study is to assess how amitriptyline and Ashwagandha affect the acetylcholinesterase gene in rat salivary glands. Forty healthy albino rats were divided randomly into four equal groups: Group I (control) received distilled water for 30 days. Group II received amitriptyline (10mg/kg) for 30 days. Group III received ashwagandha watery root extract (200mg/kg) orally for 30 days and Group IV received the combination of amitriptyline orally and ashwagandha root extract orally for 30 days. Rats in each group were sacrificed after day 30 and salivary glands were dissected for measurement of the acetylcholinesterase gene using a Polymerase Chain Reaction technique (PCR). Acetylcholinesterase gene measurements reveal an increase in groups treated with amitriptyline alone (1.55 ± 0.11) and in the group treated with a combination of amitriptyline with Ashwagandha (1.92 ± 0.16), in comparison with the control group. There were no discernible differences between the Ashwagandha treated group (1.073 ± 0.25) compared to the control group (0.76 ± 0.19). In conclusion, Amitriptyline alone and, when combined with Ashwagandha cause transcription of the acetylcholinesterase gene.