

THE ASSESSMENT OF POSSIBLE ROLE OF β_2 – ADRENERGIC TRANSMISSION IN ALZHEIMER’S DISEASE IN BIVENTRICULAR STREPTOZOTOCIN INDUCE EXPERIMENTAL DEMENTIA

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Multiple neurotransmitter deficits have been observed during aging and associated disorders such as sporadic Alzheimer’s disease. Deficit in central noradrenergic transmission has been well documented in AD and aging pathophysiology. However, β_2 -adrenergic signaling has been reported to play a key role in neurogenesis, synaptic plasticity and depletion of neuroinflammatory markers in brain. However, the exact role of β_2 -adrenergic modulation (stimulation/ inhibition) was a matter of debate, although in the present study it has been found that β_2 -adrenergic agonist clenbuterol enhance the cognitive functioning as well as restores the cholinergic hypofunction, antioxidant level in brain. Moreover, outcomes of present study clearly indicate that the stimulation of β_2 -adrenergic receptor would be therapeutic in management of progressive cognitive disorders such as sporadic Alzheimer’s disease.