9-tert-butyl-apomorphine (DTBA) as an effective soluble compound with antioxidant activity for treatment of experimental Parkinsonism

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Objective: To evaluate antiparkinsonic e ect of the investigated compound were used two di erent model of experimental Parkinsonism in white rats: 1– classical model with overdosege of neuroleptic drugs and 2– new one, with injection the initiator free-radical oxidation (FRO), FRO - Fe-ascorbate mixture, into substantia nigra of the brain.

Background: One of the causes of Parkinsonism might be activation of lipids peroxidation (LPO). But there might take place and other FRO initiator reactions, apart from LPO inhibition, that should also be considered – of radical fragmentation processes. e bifunctional organic compounds like dopamine in particularly can undergo FRO, that is reactions of radical fragmentation. In former investigations we were found, that the products of free-radical oxidation (FRO) of dopamine on adding Fe-ascorbate in vitro resulted in predominant formation 4-(2-aminoethyl)-benzoquinone-l,2 along with other products.

Results: Treatment of dopamine with Fe-ascorbate mixture resulted in predominant formation 4-(2-aminoethyl)-benzoquinone-l, 2 along with other products. e new fenol's derivative DTBA inhibit FRO of dopamine in vitro. Antioxidant activity of DTBA in 10 times exceed the same one of dibunolum. is compound (DTBA) has not negative reaction (vomiting, nausea) that caused by Apomorphine. Animals treated with the new phenol derivative DTBA demonstrated considerably faster recovery from catalepsy.

Conclusions: In the mechanism of Parkinsonism development an important role may belongs not only LPO but FRO (that is reactions of radical fragmentation) of dopamine initiated by non-heme Fe and phenol derivatives with -activity might be used as a ective means for the treatment of Parkinsonism.

Biography

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