Inhibitory effect of nicergoline on superoxide generation by activated rat microglias measured using a simple chemiluminescence method.

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We evaluated the effect of nicergoline on superoxide production by rat microglias using a 2-methyl-6-(p-methoxyphenyl)-3, 7-dihydroimidazo[1,2-a]pyrazin-3-one-dependent chemiluminescence assay. Nicergoline dose-dependently inhibited superoxide production by microglias stimulated with phorbol myristate acetate or opsonized zymosan, while it had no effect on superoxide production by a hypoxanthine-xanthine oxidase system. These results indicate that nicergoline does not have a scavenging effect, but has an inhibitory effect on superoxide generation by microglias. Although this drug is commonly used for treating chronic cerebral infarction, it may also have a protective effect on progression of Parkinson's disease or Alzheimer's disease.

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