

Local anesthetic effect of some benzoate compounds and diethylaminoethanol and their influence on procaine activity

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Sodium benzoate, ammonium benzoate, sodium p amino benzoate (PAB) and diethylaminoethanol (DEAE) alone and in conjunction with procaine have been tested as blocking conduction agents on frog desheathed sciatic nerves and on the rabbit cornea. Benzoate compounds, PAB and DEAE are able to block impulse conduction on the isolated nerve. Local anesthetic activity of these substances on the rabbit cornea was absent. All compounds but DEAE mixed to procaine in a subthreshold concentration of 5 mM are able to potentiate its effect on the amplitude of compound action potentials. Sodium and ammonium benzoates potentiate procaine also in the rabbit cornea, while PAB and DEAE did not significantly change its activity. Results on desheathed and sheathed nerve preparations indicate that there is no influence of benzoates on the passage through nerve sheath. Time course of recovery suggests also that there is no interaction with the membrane binding of procaine. It is concluded that the synergistic