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**THE MODE OF ACTION OF NEREISTOXIN DERIVATIVE, 1,3-BIS
(CARBAMOYLTHIO)-2-(N-N-DIMETHYLAMINO) PROPANE
HYDROCHLORIDE (NTD-2) ON SOME SYNAPSES**

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The action of Nereistoxin derivative, NTD-2, on cholinergic and adrenergic transmission at peripheral synapses of various animals was studied.

NTD-2 abolished the contractions of cat nictitating membrane, guinea-pig vas deferens and chicken oesophagus caused by preganglionic nerve stimulation. On the other hand, the contractions of nictitating membrane and vas deferens caused by stimulations of the adrenergic postganglionic nerves were not affected by NTD-2.

NTD-2 also inhibited the transmissions at the junctions of the intramural postganglionic nerve-oesophageal muscle of the chicken, sciatic nerve-sartorius muscle of the frog and cervical nerve-biventer cervicis muscle of the chicken, although the extent of the effect was very variable.

Furthermore the contractions of the oesophagus and biventer cervicis muscle and the twitches of the sartorius muscle caused by direct electrical stimulation to the muscle were inhibited or occasionally potentiated by this agent, although those of the vas deferens and nictitating membrane caused by adrenaline were not affected.

In view of these results, it was suggested that NTD-2 probably inhibited the cholinergic transmission, especially at the autonomic ganglion. However, the adrenergic transmission was not inhibited by this drug. The mode of action of NTD-2, however, appeared to be very complicated, because this agent produced non-specific excitatory or inhibitory effects on the muscle directly or to the nerve-muscle junction.