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Respected Sir,

Can you please guide me: 1) Why should neostigmine be used intramuscularly and not intravenously in cases of cobra bites? 2)If Neostigmine is to be used intramuscularly, why should it's use be as frequent as every 30 minutes? 3) Many physicians use it every 4 hourly and for 3 to 4 days; is this approach right or wrong?

Thanking you,

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The Repy of Editor-in-Chief

1. It is theoretically undesirable to give neostigmine and atropine in full doses i.v. simultaneously; for atropine, before blocking vagus nerve causes, by a central action, transient vagal stimulation except in negroes. Atropine is therefore best given a few minutes before neostigmine. So the reason is to avoid undue cardiac slowing. Neostigmine, a synthetic anticholinesterase is effective orally and by s.c route it is effective.

2. In neurotoxic bites, a further level of treatment is the use of an anticholinesterase; in the Indian context, Neostigmine. This technique was developed by Indian doctor RN Banerjee. Neostigmine acts by eliminating cholinesterase and prolonging the life of acetylcholine giving it a greater chance to bind to a free receptor.

3. The important point to remember is that Neostigmine Test is just that, a TEST.

How to use it?

a) Set a baseline objective measure. Eg., Single breath count, length of time upward gaze can be maintained, inter incisor distance and record the result. Eg. a single breath count of 12.

b) Administer 1.5 mg of neotigmine IM and 0.6 mg atropine i.v to counter muscarinic effects.

c) Retake the measure every 10 minutes. Neostigmine takes 20 minutes to reach plasma levels. therefore reading at T0′ plus 10' and T0′ plus 20' should show no improvement. T0′ plus 30' should show an improvement if the test is going to work eg. SB count will rise to 18.

d) If there's no improvement or a decline over the 6 tests, the test has not been passed and neostigmine should be stopped. Neostigmine works well in post synaptic bites such as cobra but it should be tried in all neurotoxic bites. Its effect in presynaptic bites (Krait) is unproven. The rationale behind "every 4 hr for 3-4 days" has never been clear to me. I appreciate your interest in handling this "most neglected medical emergency of rural India". In Maharashtra Dr. H.S.Bawaskar of Mahad and Dr. D Panduranga Punde of Aurangabad are two great physicians devoted to the cause of reducing snakebite mortality. I am sure you will also devote your expertise and skill towards this emergency.

With best wishes,

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