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The mouth–nose biologically closed electric circuit in zinc lozenge therapy of common colds as explanation of rapid therapeutic action

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Response to: Singh M, Das RR. Clinical potential of zinc in prophylaxis of the common cold. *Expert Rev. Respir. Med.* 5(3), 301–303 (2011).

Recently, Singh and Das wrote an article entitled ‘Clinical potential of zinc in prophylaxis of the common cold’, which was published in *Expert Review of Respiratory Medicine* [1]. The immunological mechanisms of action of zinc that they cited appear correct and it is also true that they are of a delayed nature. However, they probably cannot alone account for the rapid therapeutic action of strong zinc lozenges in aborting colds as was first reported by Eby *et al.* [2] and elsewhere. The fact that the first observation of the rapid action of zinc lozenges against colds occurred in a child with T-cell leukemia and with no functional immune system due to chemotherapy is a good indicator that more is involved [2]. There is a local mechanism of action: the mouth–nose biologically closed electric circuit (BCEC) [3,4], which appears to explain the rapid therapeutic response to zinc lozenges. It moves electrons from the nose into the mouth and, in response to the electron flow, it moves positively charged metal ions, such as ionic zinc, from the mouth into the nose [3,4]. Other BCECs were first documented by Nordenström [5], a member and chairman of the Nobel Assembly in Stockholm, Sweden. Ionic zinc movement from the mouth into the nose has been documented [6,7]. Positively charged zinc is antirhinoviral [8], and it inhibits the release of histamine from mast cells [9]. The mouth–nose BCEC moves positively charged ionic zinc into the nose where these biological actions can occur, thus rapidly shortening colds (and

allergies). I have made some observations of the mouth–nose BCEC using a highly sensitive Fluke® multimeter. I found the voltage to be between 80 and 120 mv in different patients [3], identical with the findings of Sceusa [7]. Voltages rise and fall slightly with the respiratory rhythm. I observed that resistance values in the mouth–nose BCEC are related to allergies and the frequency of common colds, with low resistances (1–20 KΩ) appearing related to allergies and frequent common colds, and high resistances (100–500 KΩ) appearing related to the absence of allergies and strong immunity to common colds. Reversing leads results in greatly different resistances resulting from the native electron flux. Perhaps, the mouth–nose BCEC explains why patients with colds and a history of allergy responded so much faster than patients with colds and no history of allergy as shown by Petrus *et al.* [10]. Consequently, these native voltage and resistance parameters should be considered as variables applicable to all zinc lozenges for common cold research, since they can greatly bias results, as demonstrated by Petrus *et al.* [10]. The mouth–nose BCEC does not transport neutrally or negatively charged zinc into the nose; lozenges made with nonpositively charged zinc have no efficacy in common cold therapy. Considering these properties, the observation that zinc lozenges releasing positively charged ionic zinc shorten colds in a dose–response manner ($p < 0.001$) [11] can be seen in a more plausible light. Orally ingested forms such

as tablets, liquids and syrups do not have these properties and therefore, according to my research, are not effective.

and has previously profited from patent royalties. The author has no other relevant affiliations or financial involvement with any organization or entity with a financial interest in or financial conflict with the subject matter or materials discussed in the manuscript apart from those disclosed.

Financial & competing interest disclosure

The author has expired patents concerning zinc lozenges for common colds; for example, The 1995 US Patent 5,409,905 – Cure for Common Cold,

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