THE COMMON COLD: A NEW APPROACH

SIR -

Despite many years of intensive research, the "common cold" remains a source of much discomfort and a main cause of job absenteeism. Efforts to find a suitable remedy have therefore continued apace. Principal emphasis has been on the development of vaccines and the use of interferon for the induction of antibodies (1). Other approaches have been investigated, including ingestion of large doses of ascorbic acid as a prophylactic as recommended by Pauling (2) and others (3,4).

While growing up in a rural district in Norway, where the main occupation was lumbering, the author observed that lumberjacks were remarkably free from colds during periods which they spent in cabins in the mountains - even though they did not, at the time, form an isolated community and were in constant contact with people from the valleys. However, when the lumberjacks returned to normal living conditions in the valleys, they were as susceptible to colds as other people. A significant factor seemed to be the air in the cabins which was found, on analysis, to contain highly reducing substances originating from the wood, mainly pine, used in the primitive stoves.

Subsequently, when the essential conditions for the growth of common cold rhinoviruses had been found to be a plentiful supply of molecular oxygen, a pH of 6.8 and a temperature of about 33°C (5), it seemed logical that, in the forest cabins in Norway, the apparently protective action of the air was due to antioxidation.

As rhinoviruses are found only in the nasal and upper respiratory tract epithelium (5) (lack of sufficient molecular oxygen in the bloodstream probably accounts for the failure of these viruses to flourish there), research on the treatment of the common cold was directed toward finding a suitable anti-oxidant, which could be applied to the mucous membrane of the nose. During a period of 8-10 years, many substances were investigated, including those generally used for preservation of foodstuffs and also reducing substances (phenols and terpenes) found in smoke from pinewood.

Considering the essential requirements for nose drops (minimal toxicity and undesirable side effects, reasonably long action, inoffensive taste and smell, cheapness and relative ease of preparation), the most suitable anti-oxidant preparation was found to be freshly prepared, isotonic (3.1%) sodium ascorbate solution. Such a solution did not arrest ciliary movement in guinea pigs when tested according to the method of Mirimanoff (6).

For several years, this solution has been effective in curing or markedly alleviating the symptoms of colds in the 50-75 cases (age range 20-50 years) in which it was tried. The writer is aware that double-blind experiments would certainly have been preferable, but such were not possible in the research milieu available. Such experimentation is strongly encouraged.

In Pauling's (7) description of the protective action of oral ascorbic acid, the concentration in the blood was reported to be 2.5 mg/100 ml. The concentration in the mucous membrane would therefore be less than one-thousandth of that obtained by local application of an isotonic sodium ascorbate solution. The writer's experiments showed that massive oral doses of ascorbic acid did not produce antioxidation effects on the mucous membrane, suggesting that the mechanism of action in the case of the oral administration of ascorbic acid differs from that of local application.

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The studies described above were performed as a private research project, independently and apart from the writer's official United Nations duties.