

# NASUS PITUITOSUM—OR THE COMMON COLD

THEODORE JAMES, *Pinelands, Cape*

The question might be asked, 'Why all this fuss about the common cold? Many workers in different countries have been involved in a vast amount of laborious and painstaking research which has, by comparison, produced extremely meagre practical results.' Part of the answer could lie in a statement of Tyrrell' that 'although we may continue our occupations, we spend probably up to one-third of our days feeling less well or comfortable than we might, because of the symptoms of a cold.' This statement implies that almost all of us are so liable. The other part of the answer could be that the common cold is responsible for an enormous amount of absenteeism from employment, and so when this absenteeism is reckoned in man-hours of work lost, the common cold has a direct and adverse effect on national commerce and industry on the one hand, and on the individual's earning capacity, on the other.

The purpose of this paper is to put into perspective certain factors connected with the common cold, to discuss their significance, to advance a certain hypothesis regarding the aetiology and development of the coryza and to suggest both a means of prevention and a rapid cure. The

poor results obtained in pursuing the problem of prevention of the common cold demand a reorientation in the approach of research workers, and any new ideas which can throw new light on this matter should be welcomed. It is even possible that the multitude of viruses uncovered by 'laboratorial ploughing' of researchers has served greatly to obscure some clinical observations whose worth has not as yet been properly measured or tested.

I do not know who it was that first drew attention to, or simply mentioned the common cold as an illness, but Hippocrates did attach some significance to *coryza as a symptom* and later Cicero, as he so often did, coined the appellation *homo pituitosus*. Therefore, although it is in the present day that an infective agent was first inferred to be the primary cause of the common cold and later factually established as such, the illness itself and the virus responsible are nothing new and the Greeks, as always, had a word, κόρυζα, for it.

The concept that the common cold is an infection, was supported at the beginning of the 20th century by the isolation of bacteria from the upper respiratory tract, some of which were found to be the specific causes of



certain diseases. When organisms were isolated from the noses and throats of patients troubled by coryza, and since these organisms were often found in large numbers and even in pure culture, it was not an unreasonable conclusion to draw that these organisms could produce the common cold as well as more serious illnesses.

By 1932 hundreds of published papers, the results of much careful work on bacteria associated with the common cold, had appeared, but many of the investigations were inconclusive or could not be confirmed by other workers. Dochez, Mills and Kneeland<sup>2</sup> studied the bacteria of the nose and throat of adults with colds and again in the intervals between colds, and identified and recorded somewhat quantitatively many of or all the organisms recovered from the subjects of the investigation. They were able to show that there were no actual changes in the bacterial flora in the early stage of a cold and that the upper respiratory secretions even in the early stage might be sparse in organisms. A point worth noting is that they did not observe any unusual increase of bacteria or any invasion of the nose by bacteria from the throat. Yet, in their comparative experimental work with chimpanzees these animals *did* show such invasion in the later course of the colds, a finding which has relevance in the later discussion. These same authors also studied many adult patients with colds and compared their findings with those of a similar number of healthy adults and were not able to detect any differences between the numbers or types of bacteria present in the nose and throat of the 2 groups.

Other workers<sup>3,4</sup> concluded from their researches that filter-passing anaerobic bacteria obtained from the secretions of subjects with colds and from the secretions of symptomless subjects, were normally present in the upper respiratory tracts, and these authors could not attribute colds transmitted by filtered nasal secretions to this group of bacteria. So it was that Dochez and his co-workers satisfied themselves that the occurrence of colds appeared to be unrelated to the presence of filter-passing anaerobic bacteria but that the colds they had studied had been caused by a virus.

When, in 1950, it became known that the virus of poliomyelitis could readily be grown in tissue-cultures of human kidney cells, great endeavours were made to isolate a virus from the secretions of the common cold, but subsequent studies showed that most of the different viruses that came to be isolated by culture appeared able to cause at least a proportion of the cases of common colds and similar upper respiratory tract infections. However, 10 years later it was established that there was a new group of viruses, now known as the rhino-viruses, which has been shown to cause a substantial proportion of colds occurring in both adults and children.

Because these researches into the aetiology of the illness have been yielding quasi-useful results for so short a time that prophylaxis and treatment have shown no progress, it has been deduced that there are causative viruses still to be isolated.

Cogent facts support the contention that there is no solid evidence that even a small proportion of colds in man is due to bacteria. In 1963 *The Lancet* asked, 'Is there 1 clinical type of cold or several?' because there are those workers who bring together as minor respiratory disease

all conditions other than pharyngitis since it is difficult to make valid distinctions between various illnesses which comprise the remainder. On the other hand *The Lancet* pointed out a common clinical observation that a cold spreading among the members of one family appears to 'breed true'. A cold may be without fever or cough whereas another might have these 2 symptoms. These 2 types of coryza might be produced by different agents, specific enough to produce characteristic patterns of coryza. Again *The Lancet*<sup>5</sup> annotated that because 'we now know that many colds are due to infection by one or other of several different viruses' and 'in many cases the presence of antibody protects against infection . . . a vaccine might prevent at least some colds.' This faint glimmer of hope for possible practical prophylaxis loses any grip it might hold when it is regarded in the light of the accumulating knowledge about the different viruses which are being isolated as invaders of the respiratory tract. Until the ideal of isolating in culture all the possible viral agents capable of producing the coryzal syndrome is achieved, the prospect of developing a satisfactory polyvalent vaccine against the variety of common colds will remain extremely remote.

Yet anything less than a polyvalent vaccine would prove ineffectual in any individual whose cold may be the result of infection by a virus not included in a particular vaccine. It will not be a practical procedure to match even a multivalent vaccine to the possible coryzal virus which might at some future time attempt to invade an individual's upper respiratory tract. Other doubts can also be cast upon the practicality of inducing an immunity to the common colds. Why is it that the natural invasion of the cold virus which produces the symptoms of the common cold in any individual does not establish any real degree of immunity to the cold virus' repeated invasion, and yet it is hoped by some that a passive form of immunization will prove more effective?

One postulate is that there appears to be a delicate balance of factors in which the environment and the resistance of the host are at least as important as any specific antibody, but this rather belittles any value that has been attached to a specific antibody and inclines one to look elsewhere for factors influencing resistance positively or negatively.

It has been said that certain people who show a resistance to colds have this resistance related to an intrinsically reduced ability of their cells to support virus growth. This hypothesis however leads the protagonist into much tautological speculation and no practical solution which might help the person who is not resistant to colds. If it is agreed that the common cold is the mildest of a series of respiratory diseases due to viruses and that there are viruses capable of causing the much more serious pneumonia, it is still no consolation to the chronic sufferer from common colds to inform him that, although the rhinovirus appears to be specifically important in causing his cold, we are only just beginning the task of working out which serotypes are important and we may soon have to investigate which rhinoviruses cause other diseases and how the environment and the constitution of the host influence respiratory diseases as a whole! Such exciting speculation tends very strongly to draw the scientific researcher away