

"About Directed Antibiotics"

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Every year, the return of the winter season is accompanied by a great many of respiratory diseases of varying degrees of gravity. The pathology of the broncho-pulmonary organs, usually possesses clinical forms that are easy to diagnose and treat. Difficult cases are fortunately the exception rather than the rule. Either diagnosis is hesitant or complication of evolution or therapy arise. There is nothing worthy of retaining our attention especially.

However several patients came to ask doctor with a varied symptomatology seemingly respiratory in origin but at first sight not coming under any precise nosological heading while coughs continue to remain the feature common to the complaints of all these patients, the related symptoms, on the other hand, vary in number and in intensity from one patient to another. The cough has generally lasted some time already, produces little sputum, is fitful or mainly occurs at night, furthermore many cases have not been cured by usual simple drugs, as cough mixture, expectorants, fumigations etc. Apparently therefore it is no longer a simple bronchitis, even several rales can be heard; there is no longer any characteristic pulmonary diseases either. For radiology reveals nothing either. The other symptoms are fatigue, nervousness, night-sweating, anorexia, loss of weight, and fever or pleurodynia tend. If several of them are present together, sometimes the patient think of incipient tuberculosis. but radiology shows no evidence. The doctor then think of the "descending syndrome" if the intracardi-

hilar region are less transparent than usual.

Whatever the diagnosis, these patient's coughs can be cured. The usual therapy having proved ineffective and being reluctant on the other hand to prescribe a cure of major antibiotics for such simple ailments (diseases).

Let us remind readers, a bacteriophage is an inframicroscopic ultrafilterable element obliged to be a parasite on living cells. Among its properties, the one that interest us here is its lytic power on bacteria, whether they are resistant or not to antibiotic. Furthermore, it produces no resistance and, if its power decreases, it can always be increased by training it again in contact with the infectious germs (autophage.) Finally, it is harmless.

However in spite of these undoubted advantages, the bacteriophage has not been widely adapted for therapeutic use. Among the great anti-infectious medicaments, it is considered rather as a poor relation. The first experiments of d'Hérelle have led to much controversy, more theoretical than practical. In 1946 the very detailed and fully documented work of J. Steinmann made an important contribution to the understanding of the phage phenomenon. that is possible with phage therapy when the prescription and, most important method of administration are correct. In 1958; a report by Cevy, concerning an empyema dried out by bacteriophages, gives further proof of the value of such therapy. In the same year, S'edaillan, Bertaye and Coll, published a report on a purulent colibacil-

lary meningitis, resistant to all antibiotics except neamycin. These reports seemed sufficiently convincing for me to try using bacteriophages in the treatment of persistent coughs.

Here we consider the general heading of respiratory diseases caused by common germs and possessing one symptom in common, is a cough that is more or less resistant to the usual therapy. In all, the bacteriophages were administered, no other medicaments were added except, on two occasions, a "moistener" and a Bronchial spasmolytic for an asthmatic patient,

The results as far as the coughing is concerned, can be considered highly satisfactory, In a series of 18 cases. only one was total failure. Fifteen cures were complete, one which was followed by a recurrence of a bronchial infection. In all the cases cured, the accompanying symptoms also disappeared, Sometimes a little later than the cough. Whenever there were mucopurulent expectorations, before disappearing they turned whitish after the second or third visit.

The evolution of the infection under therapy was rapid, with an effect on the cough in two or three visits, In one case the product caused feverish reactions with urticaria. This reaction was probably the result of an allergy to one of the ingredients of the medicament perhaps the albuminous medium; It occurred again even with the autophage, but was prevented by the prophylactic absorption of an antihistamin.

Not included in these statistics are acute ordinary bronchitis, one of which was an autoobservation. In these cases, which were treated in the same manner, the yellowish-greenish expectorations lost their purulent character after two or three visits and rapidly decreased in inten-

sity to dry up completely in seven to ten days, without any other treatment.

Has this therapeutic method an advantage over others in the treatment of the cases in question? when it is noticed that some of the patients had previously and unsuccessfully undergone a symptomatic treatment, the action of Bacteriophages can be considered as most interesting because their effect is so rapid.

Would the use of any antibiotic have had similar results? There being no test cases with which to compare the results, this question cannot be answered in a convincing manner. I should consider a similar result possible however especially if use were made of an antibiotic with a wide spectrum. But the disadvantage are by no means to be overlooked, Furthermore a sinusitis seems to be the cause of the respiratory disease even apoly Valent antibiotic administered legeartis orally does not give the expected result, probably owing to inadequate irrigation of the infected mucuses. Although the cures effected were rapid, they do not seem to have protected the subjects from subsequent reinfections. Actually a bacteriophage does not have the effect of a vaccine, but on the other hand, Seems to act just as well in the case of a relapse and If necessary an autophage may be made of it.

I wish to add one final remark. Bacteriophages are generally thought to act better when the germs are in the growing stage, consequently in acute cases, Now about two thirds of the cases quoted above were if not chronic at least subacute, How therefore was the phage able to act in a manner so uniformly favourable? In addition to its specific action of microbial lysis has it not perhaps a secondary, non-specific but no less useful action reminiscent of the anti-virus effect mentioned by Besredka?
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