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EXTRINSIC ALLERGIC ALVEOLITIS ASSOCIATED WITH CONCOCTION FOR TREATING MALARIA TRADITIONALLY

BY

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ABSTRACT

Two cases of allergic alveolitis are described which resulted from traditional way of treating malaria using local herbs. The contents of the mixture used in this treatment are not universally known and there are local variations. A few of the items appear to be known in most areas of the country. The particular antigen responsible for this reaction will only be found if the ingredients used in this concoction are made known openly by the traditionalists. This is necessary so that preventive measures can be taken. It is known that a large percentage of the rural population still resort to this mode of treating malaria.

INTRODUCTION

Extrinsic allergic alveolitis is the result of a type III immune reaction, according to the classification of allergic reactions by Gell and Coombs (1963). Alveolitis is the respiratory manifestation of this type of immune reaction. One of the best known disease entities in this category is the farmer's lung. This condition is not common in Tropical Africa and probably has not yet been reported from Nigeria. The reason for its apparent non-existence is because of the different circumstances in relation to dairy farming. The climatic conditions in Tropical Africa are such that the necessity for storing hay does not arise. Farming methods also differ considerably. The dairy farmers are mostly nomads. They take their cattle to where the grass is green. You can almost always find such a place in most of Tropical Africa except in the Sahelian region. The present attempt at improving dairy farming in the Mambila plateau of the Soudana Local Government Area of Gongola State in Nigeria should make us aware of this condition. These people have no grass during the dry season. Due to scarcity of groundnut and cotton, whose by products form cattle feed, the need for hay may arise sooner or later. Other cases of extrinsic allergic alveolitis do exist in the tropics like bagassosis amongst sugar-cane workers.

CASE REPORTS

I report here 2 cases of extrinsic allergic alveolitis associated with a traditional method of treatment. Malaria is a common condition in Nigeria and anybody who does not take prophylactic antimalarial drug has an attack a few times in the year. Most of these attacks in the indigenous people are mild and one is not greatly incapacitated. But once or twice a year or more,

one suffers a more serious attack for which one is off work for a week or so. This often happens during periods of overwork and fatigue or when resistance is depressed by other intercurrent illnesses. These more serious attacks are generally recognised by most people, especially the elderly, including those who live in rural areas.

There is a traditional therapy used in the treatment of these more severe attacks. The ingredients consist of several different leaves boiled together in water together with the bark of a certain tree. There is a slight variation in the composition of the mixture with differing ethnic groups. But certain leaves like those of the lemon grass are constant with every group mixture plus the bark of a tree which may be the same. These are boiled in water. The sufferer takes a bath in the water and drinks a small quantity of it. The quantity taken is not standardised. (Like most traditional therapy, the greater the quantity, the more efficient it is assumed). The most important part of the therapy consists in the inhalation of the steam produced by boiling the ingredients in water. The patient is seated on a stool with the pot of boiling medicines in front of him. Both patient and pot are covered up with a blanket. The 'traditionalist' using a long stick stirs the pot with this long stick, working from outside the enclosure. The patient is encouraged to inhale the steam produced by the operation with the poker. This procedure lasts for several minutes and a good sweat is an indication of a successful therapy. It is after this ritual that patient takes a bath with the water and drinks a measure of it too.

This first case was that of a 53 year old businessman as reported by Anah (1977). Here the man took antimalarial in what appeared to be an insufficient dose and so did not feel satisfied with his response. He therefore consulted the traditionalist. He was subjected to the ritual as described above, soon after which he developed cough, fever and breathlessness. He responded dramatically to Steroid therapy. Radiological picture was consistent with an alveolitis. The possibilities were alveolar proteinosis, pulmonary oedema or allergic alveolitis. The diagnosis of allergic alveolitis was arrived at by exclusion. There was no cause for pulmonary oedema and the diagnosis of myocardiosis could not be made. Historical evidence combined with response to treatment made the diagnosis of extrinsic allergic alveolitis entertainable.

The second case was that of a 48 year old rural farmer who had the same experience. On the suspicion of malaria as the cause of his illness, a son bought and gave him fansidar (mixture of sulphonamide and pyrimethamine) in the usual dose of three (3) tablets statim. Response was again rather slow for the man who promptly returned to the village where the traditional treatment was administered. He reacted with fever, cough and breathlessness like the former patient. Treatment with steroid and nothing else proved very dramatic.

The interesting part of this second episode was that the man was so delighted with the response that he agreed to go through the ritual again. Fortunately the pot of the concoction was still available. When he went through the process again, he reacted with same symptoms though he said that symptoms were not nearly as severe as the first time. He again responded appropriately to steroid therapy. Unfortunately it was not possible to get him to do the inhalation alone without drinking it and having a bath with it. In actual fact, he still believed that it was the traditional treatment that was working.

In this second patient there was a slight increase in eosinophil count but helminthic infestation was not excluded. Plasma protein showed a higher globulin than albumin (4.5 to 3.4 respectively). Immunoglobulins could not be done.

DISCUSSION:

Most of the reported cases of extrinsic allergic alveolitis have been associated with precipitins against fungal organisms like in Farmers' Lung where the thermophilic actinomycetes, *Micropolyspora faeni* (William, 1963) was implicated. Others include *T. vulgaris* in Bagassosis (Salvaggi, Seabury, Buechner & Kundur, 1967) and *Aspergillus fumigatus* and *clavatus* in malt

workers' lung (Ri as in Bird fancier's in pituitary snuff derived from the

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workers' lung (Riddle et al 1968). Precipitins against foreign proteins have also been incriminated as in Bird fancier's lung (Hargreave et al 1961) where the antigens are in the birds droppings and in pituitary snufftaker's lung (Mahon et al 1967) where the antigen is the foreign protein derived from the pig's or cow's pituitary.

The cases reported here are based on clinico-radiological findings plus reasonable circumstantial evidence. There was also the repeated response to a challenge medication in the second patient. Among the constituents of the boiled mixture is the bark of a tree which could be an oak tree. The condition of suberosis is found in cork workers (Avila & Villa 1968) who work with mouldy oak bark. The bark of this tree is generally stored, before use, though fresh ones can be used, according to my limited information. There can be no conclusive proof that these are cases of extrinsic allergic alveolitis without precipitin tests. Two difficulties arise here with respect to specific confirmatory tests. The first is the identity of the substances in the mixture. The other is the prospect of a challenge test on the patients. The latter was refused by the first patient.

These are being reported to alert practitioners in the area about the possible association. Those who are familiar with the constituents of the mixture of this therapy can help in elucidating a relationship, if any. There is a need for more work with a view to isolating offending antigens. This may require working with the constituents individually. By so doing, the antigen, if present, will be isolated.

The traditionalists who practise this mode of therapy are, at the moment, not giving their knowledge away so easily. This form of therapy takes place more commonly in rural areas which are farther away from medical facilities. In urban areas they are resorted to in such circumstances as are described in these cases – where scientific therapy is thought to have failed. It must also be remembered that these more serious attacks in the indigenous people are not so common.

These patients had a restrictive type of respiratory dysfunction in the lung function tests that were done – low vital capacity with near normal forced expiratory volume in the first second. The presence of rhonchi in the first patient could be suggestive of some obstructive element. This does not make the diagnosis untenable as there may be a combination of Type I and Type III types of reaction in allergic alveolitis (Riddle et al (1968).

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PSEUDOMONAS

A total of 12 *Pseudomonas aeruginosa* strains were isolated from the organism. Sink and sediment reservoirs of the organism between factors and the need to discuss the need to discuss favours the proliferation

The genus *Pseudomonas* living as saprophytes in places and equipment of the normal *Ps. aeruginosa* is cause of secondary years assumed pre-urinary tract. Low notoriously prone then transmitted environment. Dangers to young and elderly with the organism in swimming and referred to a many hospital acquired were self-infection that many of the outside hospitals. patients become a incidence of pneumonia