

preparation as in those patients on prednisone.

Long-term therapy was given in patients with severe illnesses such as the collagen diseases, the blood dyscrasias and metastatic malignant disease, and short spells of treatment were reserved for acute conditions such as asthma and allergic reactions.

The incidence of side effects was high—16.4 per cent—in patients on prolonged therapy, but non-existent in this survey in patients receiving short courses. Weight gain from abnormal fat deposition and fluid retention was the commonest side effect, but seven developed overt diabetes mellitus at some time after starting prolonged therapy. In no case was death attributed to treatment, and considering the conditions for which steroids were prescribed withdrawal of treatment was not warranted when side effects occurred.

Steroid cards were issued to 84 per cent of patients on prolonged therapy which was a satisfactory feature as it is these patients which benefit from such a card when an emergency arises.

Summary

A survey into the prevalence of corticosteroid administration in the general population for a six-month period. The reasons for therapy, the type of steroid given and duration of treatment along with the incidence of side effects are recorded.

REFERENCE

Hench, P. S., Kendall, E. C., Slocumb, C. H., and Polley, H. F. (1949). *Proc. Mayo Clinic.* 24, 131.

PERSONAL EXPERIENCE

Some medical problems of primitive Brazil

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UNTIL RECENTLY I HAD LITTLE knowledge of South America and almost none of tropical disease. With the thought that there are probably many of us in the same boat, I have written a short account of a few days I have been privileged to spend in the interior of Brazil. Experts in tropical disease are advised to turn to the next article in the *Journal*.

I was on holiday in Salvador, when I met Ken Mott. Salvador is the old capital of Brazil, a city of three quarters of a million persons, of whom a few thousands are Europeans; I nearly said white, but no one is lighter than mid-brown in this sunny city, 13 degrees south of the Equator, where a blond head is a rarity.

Brazil was discovered about the year 1500 by the Portuguese, who defended it against all incursions by Spain, Holland, England and France. A bastard Portuguese tongue is spoken throughout the country, with variation of dialect and idiom, as great as that between Glasgow and Birmingham. The early settlers soon found that the fertile coast-line produced an excellent growth of sugar cane, coffee and cocoa, but that labour was scarce, for the indigenous Indian population was thinly scattered. The labour problem was solved by the importation of slaves from West Africa. Thus the population of the state of Bahia, of which Salvador is the capital city, consists of Indian, Portuguese, Negro and a sprinkling of other nationalities—as mixed as a box of liquorice allsorts.

There is an interchange of students between Cornell University, U.S.A. and the University of Bahia, at Salvador. When Dr Ken Mott was a student at Cornell he spent a year as an

undergraduate at Salvador, and found an interest in the enormous field of tropical medicine. He is now in the U.S. Army and has been seconded to Bahia to research in Chagas' disease, of which I had never heard till I came to Salvador. This disease is caused by a large beetle-like bug (*Pansteogylus magistus*) about one inch in length, which infests many of the houses in the interior. It is called the 'barbeiro' or assassin bug, and is found in most South American countries. Dr Mott has set up his headquarters at Sao Felipe, which is four and a half hours journey from Salvador, of which two and a half hours is by river boat up the Paraguaçu river and two hours by jeep on a dirt road.

I set out to visit him and arrived at Sao Roque by the river boat, which picked up passengers and cargo *en route*, as they were paddled from the shore in flat-bottomed punts, each excavated from a single balsa-wood tree trunk. I had expected to be met at Sao Roque, a 'town' of huts and a few mud-brick buildings, but there was no one. With such Portuguese as I had—vile even to an inhabitant of Lisbon—I discovered that the only road from Sao Roque led to Sao Felipe. Reassured, I strolled for half a mile, sat down by the roadside, watched the sun setting with axial rays of pink and orange and waited for something to happen. After 15 minutes, the bus came by and there was Ken Mott waving to me and shouting that he would return. I learned later that the bus had discharged some 20 passengers at the dock, but the boat had gone and they had to spend the night somewhere till the next day's boat arrived. The bus was an old Chevrolet shooting brake, in which I have seen as many as 22 persons with their luggage, which might be a pig or a couple of hens, a sack of crabs or some indeterminate bundle.

The bus returned and I was privileged to sit in front with Ken Mott, an elderly Bahiana and the driver. Darkness fell; the fireflies were out in strength; the moon was full, as we 'navigated' the bed of a stream, which served as a road till, after the best part of an hour, the road improved and in parts allowed a round pace to be developed. We stopped at times to discharge, or take on, some passengers, though I saw no sign of buildings, and at last the dirt road gave place to the cobbled square of Sao Felipe, a town of 3,000 inhabitants.

The spacious square contains a large church, and from it run four short roads, each of a few 100 yards. They are lined by one storey houses with plastered walls of various colours. They have unglazed window spaces, closed by shutters. There is electric light. Water is brought from wells, several houses having their own. Dr Mott's house was thus equipped. Once a week, a five-gallon can was filled from the well by windlass, carried up 12 concrete steps and poured into a tank at roof level. This was repeated 50 times to fill a 250-gallon tank, at a cost of four shillings a week. A great luxury was the shower thus served. The water from the well was cold and, as the tank was filled on Saturdays, Sunday and Monday were brisk affairs under the spray—though by Tuesday, the outside temperature had raised that of the water to around 75 degrees F.

Reveille was at 06.30 hours. At 07.00, Dr Mott walked to the square to give letters for Salvador to the bus driver, who made a trip to Sao Roque twice a day. Breakfast was part Brazilian (cooked manioc flour, like porridge) and part North American (steak and eggs). Work began at 08.00 at a house in the square, known as the Poste. The door opened into a hall, about 12 feet by 10 feet, which contained a bench for those who preferred sitting to standing or crouching on the floor. A door led to the consulting room, about 10 feet square, and this to a larger room, which housed the records and an electrocardiograph machine. A third room was the laboratory where the two microscopists sat at a bench. A fourth room contained a fluoroscope with which 35 mm pictures could be taken.

There was a truly remarkable staff, all of whom were trained locally. Roberto the receptionist had had Chagas' disease, had been treated at Salvador and was given this job, to keep him under surveillance. He was aged seven years. Angelica, the secretary in charge of the filing system, acting also as an excellent ECG technician, was a girl of 11 years. The microscopists—one of either sex—were each 16-years old. There were three 'sanitary guards' who toured the country in a jeep; Domingo, or Mr Sunday, was the one I accompanied. These men record all the persons in the area, leave a tin for a sample of faeces of each person and collect them again later. They also inspect the huts for infestations. After an interval the faeces test is repeated and everyone is invited to the Poste for examination. On our visits the roads soon petered out and the jeep took to the jungle and farm tracks, among fields of manioc, ground nuts, tobacco or coffee.

Dr Mott devotes his morning from 08.00 to 13.00 officially to examining those who have

'matriculated'; that is, have had stools and blood examined with a view to picking out and studying those with Chagas' disease. In the afternoon the Poste is open to anyone, the doors being closed at 18.00 and work finishing about 19.00. All members of the staff work these long hours in a temperature around 80 degrees F and a humidity of 80 per cent. They are dedicated workers, receiving a tiny pittance, but are obviously enjoying their useful work and ready for a joke or a bit of fun.

Before I went to Sao Felipe my knowledge of tropical diseases could be written on a postage stamp. I now know enough to give a brief outline of some of the diseases of this part of South America, and the problems they pose. Almost everyone has hookworm, many have filariasis or *Ascaris lumbricoides* infection and a number have strongyloides. This is because they go bare-foot and have no privies. As a consequence, nearly all the country folk are anaemic. Many bugs infest their huts because they are of the mud and wattle type and unplastered, full of crevices. One of the staff collected 50 assassin bugs from one hut. Commonly the hut has two rooms and contains one chair, a stove, a table made from an old packing case and some sacking as a communal bed.

The bug pricks the skin with a sharp proboscis and sucks up to 5 ml of blood. It deposits its excreta on the skin. This contains the infective material which is rubbed in when the puncture begins to irritate. The main effect of the disease is upon the ganglia of the thorax, so that the cardinal signs and symptoms are megaesophagus with difficulty in swallowing, cardiac irregularities with shortness of breath and oedema of the lower leg.

The scene within the waiting hall and outside never failed to arouse my interest, amusement and pity. A profile that could have come from a fresco on a tomb of an early Egyptian, an Indian face with curly red hair from a village where some Dutchmen, driven from Salvador by the Portuguese, settled in the sixteenth century, lively black faces and solemn brown ones, a donkey with panniers and two little black faces peeping from each, all with curling long, black eyelashes and curly black hair—all could be seen inside or outside the waiting room, their owners standing or sitting quietly, patiently, often after a trek of 10 to 15 miles, waiting their turn to see Dr Ken. The scene aroused pity because there is so little one can do. Until these people live in plastered houses, wear shoes, use privies, clean their water supplies and wash their hands before handling food, there is no way of stamping out these infestations. As a short-term policy, the effect of new drugs which can clear these infestations is being studied both with regard to completeness of cure and the possibility of producing immunity to the effects of infestations. Chagas' disease can be halted by one of these drugs, but there seems little chance of reversal of the damage to the thoracic ganglia. It is therefore imperative to pick out the early cases and Dr Mott has acquired immense skill in so doing. He spends his time between the Poste and the research department of the tropical diseases unit of the University of Bahia in Salvador, where he has a laboratory well equipped by the U.S. Army.

Brazil is a huge country. The state of Bahia is as big as France. Distances between townships are immense. Potentially wealthy as the country is, it cannot afford to spend enough on its public health or medical services. Drugs at Sao Felipe were in short supply. During my stay there were at the Poste no digitalis tablets, no diuretics except a few mercurial injections, a very few antibiotics and six tablets of thyroid extract, to give a few examples. Transportation of drugs is no doubt a costly business, as they would come by air, but this could not justify the price of the equivalent of two shillings for one tablet of aspirin. There is a pharmacy in the town and Dr Mott wrote prescriptions, but few ever reached the pharmacist.

An hour's break for lunch was spent at the staff house, where the sanitary guards and the microscopists lived. We sat down to a typical Bahian meal. Beans cooked in gravy, rice and a stew of chopped liver, spleen, intestine and testicle of the ox constituted the main course. It was gently spiced and delicious. Manioca flour was sprinkled heavily over this dish by those with the necessary appetite. This was followed by a dish of fruit—oranges, sweet lemons, guavas and passion fruit—and finally by strong, black Brazilian coffee. One of the joys to me was the taste of fruits which I had not previously sampled. The most luscious was the carambola, though the custard apple and the abacaixa (similar to, but less pithy than, the pineapple) provided treats for the palate. There are, I am told, over 200 types of banana. They are found in abundance, but appear to be rarely eaten except when cooked. To me the 'apple' banana was another gustatory pleasure. The natives live largely on beans, rice, manioca and fruit. They cook with palm oil. I wondered why I saw no rickets. Does the sun produce the necessary

vitamin D through the skin?

Dr Mott occasionally visits patients unable to come to the Poste. The day before I arrived an elderly man had collapsed with circulatory failure. His legs and chest were full of fluid. He was an itinerant without a home, and when news of his trouble was heard in the town, a house in the process of completion, full of rubble, was put at his disposal by the builder. Two planks and some sacking made a bed. The neighbours nursed him and Dr Mott and I gave diuretic mercurial injections. When I left he was almost fit to undertake the journey to hospital at Salvador. I was deeply impressed by the man's courage and cheerfulness and by the kindness and helpfulness of the neighbours, who gladly gave what little they had.

My stay was far too short. I was just becoming of some use when I had to return to Salvador, that lively, noisy, bustling city, where the primitive lives happily with the contemporary in building, transport, food, religion and personnel. My return was not altogether uneventful. On my last day a boy of two years with the early signs of Chagas' disease was brought to the Poste. Under the microscope I was able to see the active vibrio in a blood specimen, and confirm the diagnosis. So I took the boy to hospital. Reveille that morning was at 04.30 hours. We left in the jeep at 05.00. I nursed the boy in one arm, holding firmly to the rail with the other hand to keep us from bouncing out of the jeep, while Mr Sunday drove. We left the jeep at Sao Roque, caught the 07.00 boat and reached Salvador at 09.00. A taxi took us to the tropical diseases unit of the hospital, where I met some of the staff and was shown round the unit.

For some time to come when the T.V. breaks down or a train is late or there is no egg for breakfast, or faced by any other modern tragedy, I shall recall the patience of these people of Sao Felipe who, in sickness or more rarely in health, are ready to smile in conditions we should find unendurable, and I shall remember with gratitude the dedicated service given by Ken Mott and his helpers. Were I a few years younger . . . but, alas, I am not.

ACCOMMODATION AT COLLEGE HEADQUARTERS

Temporary residential accommodation for members and associates and their families is provided at college headquarters. This building, overlooking Hyde Park on one side and Princes Gardens on the other, is central and easily accessible.

The charges, including breakfast, are as follows:

For single rooms	£2 10s. 0d. per night
For double rooms	£4 5s. 0d. per night
For a flatlet (bed-sitting room for two, bathroom and dressing room)	£6 per night or £36 per week
For a self-contained flat (double bedroom, sitting room, hall, kitchen and bathroom)	£42 per week

Children under the age of 12 years cannot be admitted, and dogs are not allowed.

Members and associates may, subject to approval, hire the reception rooms for meetings and social functions. The charges for these are:

Long room (will seat 100)	25 guineas for each occasion
Damask room (will seat 50)	15 guineas for each occasion
Common room and terrace	15 guineas for each occasion

A service charge of 10 per cent is added to all accounts to cover gratuities to domestic staff.

For the convenience of members, four car ports, outside 14 Princes Gate, have been rented by the College and may be hired, at a cost of 10s. 6d. per 24 hours.

Enquiries should be addressed to the **Administrative Secretary, The Royal College of General Practitioners, 14 Princes Gate, London, S.W.7.** (Tel. 01-584 6262). Whenever possible bookings should be made well in advance.