THE HEALTH OF FORCE BUEA — 1960/61

SOUTHERN CAMEROONS (United Kingdom Trust Territory)

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With the approach of Nigerian Independence on 1st October, 1960, the future of the Southern Cameroons became of immediate importance. This territory, captured by Anglo-French forces during the 1914/18 war, had formed part of the German Protectorate of Kamerun. After that war, it was placed by the League of Nations under French and British Mandates, these continuing after World War II under United Nations trusteeship, with the British mandate administered by Nigeria.

In January, 1960, the French portion of the territory became independent and almost immediately guerilla activity broke out in the Bamileke area. What was surprising at the time, was to learn that the guerilla leaders involved were Chinese trained, which pattern in Africa has become slightly more obvious since. With both refugees entering the Southern Cameroons and the possibility of disturbances arising there, two Nigerian battalions (Neild, 1962) were dispatched immediately to maintain internal security.

With a United Nations supervised plebiscite due in February, 1961, for the Cameroons to decide whether they wished to join Nigeria or the Cameroun Republic, Nigeria gave notice that she would withdraw her troops before her own Independence Day. As law and order had of necessity to be maintained until the results of the plebiscite were known, there was an immediate requirement for British troops.

Because the projected force would be operating in an underdeveloped tropical country with a rainfall up to 400 inches a year, over 4,000 miles from the U.K., complete services in support such as full hospital and dental cover, a refrigeration plant, a bakery, a base laundry and a post office were required. Since British forces had not served there since the 1914/18 war, a War Office reconnaissance party, consisting of representatives of 1st Battalion, King's Own Border Regiment and of the main services involved (F.G.N. was the medical one) was flown out in May for a quick ten day tour before flying back to report.

Much administrative effort had then to be organised by Northern Command, who were mounting the operation, before the battalion group sailed in H.M.T. "Devonshire" early in September. In February, 1961, the plebiscite was held and the decision made to join the Cameroun Republic (The Northern Cameroons, administered separately, opted to join Nigeria). In June, 1961, the battalion was relieved by 1st Battalion, Grenadier Guards who themselves left in September for return to the U.K. On 1st October, 1961, the Southern Cameroons were incorporated as Western Cameroun into the Federal Cameroun Republic which thus became the first African State to federate a former French and a former British territory and to have both English and French as official languages.

Topography

The territory was poorly developed with indifferent communications. From the capital Buea, the road was only wide enough for single line traffic and only metalled 30 miles beyond Kumba. On the laterite road beyond Kumba to Mamfe (120 miles), in

places a rough pot-holed rocky track, there was single vehicle running on alternate days, as there was also from Mamfe to Bamenda (96 miles). Thus this journey, as it had to be broken overnight at Mamfe, took two motoring days in dry weather and in wet weather might take up to three or four. Movement off the road in the forest area was almost impossible, although wide movement was feasible in the savannah highlands of Bamenda. There were airfields at Mamfe and Tiko (Nigerian Airways calling, weather permitting,

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Fig. 1

three times a week from Lagos), airstrips outside the larger towns and for coastal shipping only harbours at Victoria and Tiko (U.K. banana boats called twice a month).

Water supplies, untreated except for the Cameroon Development Corporation (C.D.C.) ones at Tiko and Bota, were everywhere plentiful except in the Mamfe area where there was an acute shortage. The majority of the inhabitants lived in wooden shacks or thatched covered mud huts in the highlands and the few permanent buildings to be seen were of brick, mud or rock construction with corrugated iron or aluminium roofs because of the heavy rains. The total expatriate population, men, women and children numbered some three hundred and fifty with necessarily limited social amenities—one nine hole golf course, sea bathing at Bota, horse racing in Bamenda, climbing Mount Cameroon, and soccer played by the police and local clubs.

Climate

This might best be described as wet tropical and varied from the heavy humid heat of the coastal lowlands to the bracing more temperate one of the uplands of Buea and Bamenda. The slight variation of the lowland's constant high temperature combined with a high relative humidity produced an oppressive enervating climate. The rainy season lasted from April to October on the coast, but was heaviest from mid-May to mid-September. The usual tropical diseases were present such as malaria, dysentery both amoebic and bacillary, yellow fever and smallpox while tetanus was widespread. Specially featured were loiasis at Kumba, "Kumba" fever (? Semi like Forest virus), onchocerciasis at Victoria, paragonimiasis at Tiko, trypanosomiasis north of Kumba and schistosomiasis in two volcanic lake craters. Venereal diseases were rife and upper respiratory tract infections were common at higher altitudes during the rains when it was often cold and damp.

Planning

The operational development was for two companies to be located at Bamenda, relatively healthy but isolated, one in Kumba Town, most insalubrious, and headquarters with services in the Buea/Victoria area. In view of the plethora of endemic diseases in the lowlands, it was strongly represented that the permanent camps be on the high ground at Buea, Kumba Station and Bamenda and that they be fully equipped to tropical scales.

As the Southern Cameroons Government was unable, because of its commitments and the approaching plebiscite to make available any permanent accommodation, and as the only unused hutting available in the territory were 44 aluminium huts capable of housing twelve men each, the length of stay of the force became of decisive importance. If it could leave immediately following the plebiscite in February, tentage might just do, but if it stayed on into the rains hutted accommodation in all areas except Bamenda was essential. The latter decision was accepted and hutted accommodation was sent out from the U.K. by sea and put up by the Army Works Organisation.

It was estimated, providing good health discipline was maintained and full immunological procedures had been carried out that a 5 per cent hospital bed cover to give a bed requirement of 50 for a force of circa 1,000 all ranks would be sufficient. There were to be medical reception stations of 10 beds each at both Kumba and Bamenda. The Royal Air Force, who were responsible for aeromedical evacuation, had small station sick quarters with their communication flight of twin Pioneer aircraft at Mamfe, but the crux

of the problem was where to site the main hospital. The Government offered their nursing home for senior service personnel at Victoria, which was both pleasantly sited and capable of some expansion. But this was adjudged to be too far away. The works services estimate for a fully equipped hospital in Buea, where there was only a Government dispensary, was £100,000 with a building time of 9 months. In the end a compromise was reached. A station hospital of 20 beds was built at Buea complete with dental centre, X-ray department, pathological laboratory and necessary stores, and a hutted annexe of 8 surgical beds added to the excellent permanent surgical facilities of the C.D.C. cottage hospital at Tiko, close to the airfield.

2 Brigade Group Medical Company R.A.M.C.—O.C. Lt.-Col. H. W. Peck—was put onto a special establishment to include 52 Field Surgical Team, a medical specialist, 5 officers of Queen Alexandra's Royal Army Nursing Corps and certain technicians. On the arrival in September, although Tiko was functioning, the station hospital at Buea had not yet been started and three Nissen huts were used as a temporary M.R.S. Later comments were that personnel were adequate to cover commitments, but would not have been sufficient to cover operations in the field; that planning at Buea did not allow for sufficient Quartermaster stores, Special Treatment Centre, motor transport office and stores; and that the surgical unit at Tiko, being separated from Buea by 16 miles, gave rise to administrative difficulties and was tiring travelling for the nursing members. In the last few months of the stay an operation theatre was installed at Buea. The main medical administrative difficulty however was with CASEVAC as due to the smallness of numbers, it was not easy for the R.A.F. to arrange regular flights by Beverley aircraft and there was also the problem of staging patients overnight in Nigeria.

Health of the Troops

From the Table will be seen the chief causes of admission to medical units during the thirteen months stay. O'Riordan (1962), the medical specialist, has stated that the troops were so healthy that he had time available for nine months to look after the wealth of clinical material available in the Government Hospital at Victoria. The troops' fitness is borne out by the almost complete absence of disease of major morbidity, but undoubtedly there was a great deal of minor morbidity such as P.U.O. and diarrhoea. In fact total admissions for this period were more than 50 per cent greater than those for the comparable period for M.E.L.F., which also included the Kuwait operations (A.M.D. Stats., 1962). There were three deaths—a road traffic accident, one patrol terrorist casualty and one drowned in the sea.

Ingestion Infections

The comparison of only 4 cases of dysentery against 99 cases of diarrhoea (one eighth of total admissions) was very striking. But Collard (1961), dealing with a similar problem in Ibadan has written that it was possible to isolate organisms of possible pathogenicity from only one third of the stools with a cellular exudate. This was in line with the experience of other laboratories. It was possible that a number of cases with a cellular exudate might be due to infection with entero-viruses. The virtual absence of infective hepatitis, 5 cases only, was also surprising.

ADMISSION TO MEDICAL UNITS FOR CERTAIN DISEASES

British Army Males September, 1960—September, 1961.

DISEASE	SEP.-DEC. 1960	1st. Qtr. 1961	2nd. Qtr. 1961	3rd. Qtr. 1961	TOTALS
Dysentery	1	2	1	1	4
Diarrhoea N.Y.D.	45	4	27	23	99
Infective Hepatitis	—	2	2	1	5
Malaria	4	3	4	2	13
P.U.O. (1) short-term	56	26	27	21	130
(2) long-term	2	3	7	—	12
Dengue	—	6	14	4	24
Glandular Fever	2	2	2	—	6
Rubella	—	9	2	—	11
Helminthiasis	—	2	—	—	2
Pneumonia	—	—	2	2	4
Influenza	8	2	1	—	11
Tonsillitis	8	11	4	8	31
V.D.	3	9	5	5	22(148)
Total Skin	24	8	6	7	45
Appendicitis	2	5	5	2	14
TOTAL	154	94	109	76	433
Diseases listed above as percentage of all diseases					62
All diseases (excluding INJURIES)					701
ALL INJURIES					92
TOTAL ADMISSIONS					793
Annual Rate per 1,000 strength					714.2

NOTES. 1. V.D. Figures in brackets are cases not admitted.

Arthropod-borne Infections

Of the 13 cases of malaria, three were malarial, six falciparum and four ovale. Investigation of the four cases in the first quarter showed that there had been a failure to take the prophylactic paludrine (one tablet, 100 mg. daily) regularly, so that the C.D.C. precaution of giving two tablets daily to all persons over eleven stone was probably not necessary.

There were 183 cases of P.U.O., dengue, glandular fever and rubella (one quarter of total admissions). Many of these occurring in the Kumba area had been previously supposed to be due to an arthropod-borne virus infection. However Draper (1963) of

the W.A.C.M.R. Virus Research Unit has written that, during May and June, 1961, he visited the Southern Cameroons to investigate a number of cases of a "dengue-like" illness and fever occurring amongst British troops during the previous six months with an increase in the number of cases during April. The duration of the fever was from 2 to 5 days, with variable associated symptoms, while some of the patients developed a diffuse maculopapular rash with enlarged lymph glands. All recovered with symptomatic treatment. His investigation showed that virus Cocksackie B4 was circulating in the local community during his visit and that it was responsible for at least one of the cases of fever observed. It was not the causative agent in the group of cases with a rash and enlarged glands, which remained unknown and, unless caused by a number of a completely new group, it was unlikely that an arthropod-borne virus was concerned.

Hart (1962) tested, by haemagglutination-inhibition tests against a variety of viruses of groups A and B, sera from 90 volunteers before and after 6 months' stay in the Cameroons and found no evidence of infection by such arthropod-borne viruses as he tested. Draper (1963) considered this surprising in view of the prolific insect life of the area and commented that these findings emphasised the point that some of the undiagnosed fevers, which are so common a feature of medical practice in the tropics, and which, for want of a better name, are often labelled as "dengue" or "sandfly fever", might in fact not be due to arthropod-borne viruses and that infection with some of the ECHO or Cocksackie A entero-viruses had been known to cause a similar syndrome of fever with rash and enlarged lymph gland (Stuart-Harris, 1962).

Filariasis

The territory is situated at the point where the long West African rain forest coastal area turns sharply south and in this angle of the continent there is a tremendous endemicity of filarial infections. To the west is Calabar and at Kumba was sited the M.R.C. Helminthiasis Research Unit. The latter had estimated, since most expatriates in Kumba have loiasis and in Victoria onchocerciasis, that there would be a 5 to 20 per cent infection rate amongst British troops and suggested a control trial of banocide 200 mg. daily to be taken at Kumba. This was not agreed to as it was considered that not enough was known about the side-effects of the drug. In March, 1961, a further suggestion was put forward that banocide be taken monthly, 200 mg. twice daily for three days (1,200 mg. in all approximately 5 mg./kg. a day), to kill off the infective forms of loa-loa which might have had entered the body during the previous month. But this was not sanctioned.

However the problem was watched very closely. The percentage of eosinophils (Hart, 1962) was determined in blood films from volunteers before service in the Cameroons and compared with the percentage of eosinophils 6-9 months later and this comparison showed:-

a. Total in trial	205
b. Number (post-Cameroons) showing a 4 per cent eosinophil count or less	179 (87.3 per cent)
c. Number (post-Cameroons) showing an eosinophil count over 4 per cent	26 (12.7 per cent)
of these (1) Number with a twofold rise or less over the pre-Cameroons count	16 (7.8 per cent)
(2) Number with greater than a twofold rise over the pre-Cameroons count	10 (4.9 per cent)

A graph, which plotted percentage of occasions on which counts lay within ascending percentages, showed that pre- and post-Cameroons curves almost coincided. It was therefore concluded that, although an occasional man showed a significant rise in the eosinophil count after service in the Cameroons, none of the results indicated that there was any evidence, as judged by the eosinophil count, of wide-spread parasitic infection (the time interval, 6-9 months, might be too short to reveal eosinophilia from loiasis).

No cases of loiasis were recorded during the stay in the Cameroons. But on return to the U.K. some twenty clinical cases (approximately 2 per cent) were reported, all except one occurring amongst troops who first went out there and stayed for periods varying between six and eight months. Of the cases only one took part in the eosinophil count trial, his values being 12 per cent pre-Cameroons and 7 per cent post-Cameroons. Few of the men from "B" Company, stationed in Kumba, took part in the trial, but most of the cases were from it. The majority of the cases reported between three and eight months after leaving, with a range from one month to just over eighteen months later. The only Grenadier to report was after one year, but his battalion was only there for three months.

The total number of cases of loiasis was therefore considerably less than estimated, but much higher in the company at risk. It is known that for loiasis to develop continual reinfection is necessary. The troops were only there for three to nine months as compared to the West African expatriate tour of twelve to fifteen months; they were all based on high ground and when they went out on patrol they were using full anti-mosquito precautions of long sleeves and trousers, nets and repellent (di-methyl-phthalate), which no doubt were equally effective against other insects such as *Chrysops* and *Simulium* flies.

Airborne Infections

The total of 48 cases of pneumonia, influenza and tonsillitis was an average figure as compared with other theatres. This was in marked contrast to the high rates here for West African troops in the 1914/18 war (H.M.S.O., 1921).

Contact Infections

The total of 45 skin cases was an above average figure of which half occurred during the first quarter. These occurred on arrival at the end of the rainy season when the accommodation was still makeshift. It had also been impossible to weed out all incipient skin diseases in the smaller units before the move out from the U.K. There were 170 cases of venereal disease. This total was higher than for any other theatre, due probably to a combination of the static nature of the task and the lack of social amenities. No cases of leptospirosis were reported.

Miscellaneous Group

In contrast to the rural African population in whom appendicitis is a very rare condition (Gelfand, 1961), the total of 14 cases was an above average figure even for British troops. A contributory factor may have been their diet—for the first three months "compo" rations supplemented by local purchase, chiefly bananas, and later a heavy duty scale supplemented by fresh fish and R.A.S.C. baked bread.

Discussion

It used to be said :-

“ Beware, Oh beware,
The Bight of Benin,
For few came out
where many went in !”

But since the war and the control of such killing diseases as malaria and yellow fever, British troops can now operate, as Force Buea has shown, successfully even in the heart of the African rain forest belt. However with the recession of these diseases, there still remains the challenge of the large residue of undifferentiated diarrhoeas and undiagnosed fevers to be identified and controlled.

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National Army Museum—Building Appeal

The object of this appeal is to raise funds to provide and equip a new National Army Museum in the grounds of the Royal Hospital Chelsea, the Commissioners of which are prepared to grant a lease, for 999 years of a uniquely appropriate site. The Government has agreed to meet the cost of maintaining and staffing the Museum but cost of aquisition of the site and building fall on private generosity. Promises have been received exceeding £352,000. The target is a further £750,000.

A special appeal has been made to serving and retired officers as well as to the public. The Trustees of the Army Medical Services Central Funds have made a donation of £500, Officers Branch R.A.M.C. Fund and the R.A.M.C. Association have covenanted to provide just over £100 per annum for seven years.

Annual Meeting—British Medical Association

What has come to be a regular feature of the R.A.M.C. calendar took place on 13th July, 1965—the R.A.M.C. Luncheon held at the Dolphin Hotel, Swansea, during the Annual Meeting of the British Medical Association.

61 past and present members of the R.A.M.C. took part and the gathering honoured by the presence both of the President and an ex-President of the B.M.A. and of the D.G.A.M.S. and an ex-Director General, was presided over by Brigadier R. St. J. Lyburn, D.D.M.S. Western Command.