Disease in Africa: a Medical Perspective from the 1950s

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Summary

So much attention is focused on the current HIV/AIDS epidemic in Africa that there is a tendency to overlook the grievous burden of disease from which the peoples of that Continent have suffered for centuries. This paper, based on letters sent in 1953/54 by a young doctor in Sierra Leone to his parents in Scotland, together with extracts from Makeni Hospital records of the same period, provides a factual account of front-line medicine in West Africa half a century ago.

Résumé

De nos jours, on se préoccupe bien plus de l'épidémie de SIDA, dueauVIH, en Afrique que du pénible fardeau, souvent négligé, dont les habitants de ce continent souffrent, depuis des siècles. Cette étude tire ses sources des lettres qu'un jeune médecin, résidant en Sierra Leone, envoya à ses parents habitant l' Ecosse, en 1953-1954. Cette étude s'appuye aussi sur les extraits du registre de l'Hôpital de Makeni, durant la même période. Ces registres nous fournissent ainsi une contribution factuelle de ce que fut l'état de la médecine d'Afrique de l'Ouest, il y a maintenant un demi-siècle.

Introduction

Following graduation from St Andrews University Medical School in June 1950, there was a legal requirement to obtain a year's hospital experience before being called up, like all male medical graduates, for two years National Service. This was satisfied by six months as House Physician at Perth Royal Infirmary, followed in 1951 by six months as House Surgeon at the Royal Northern Infirmary, Inverness.

Unlike most medical graduates who were drafted into the medical branch of one of the British armed services, a few doctors were given the opportunity to spend this time with H.M. Colonial Medical Service. My posting to Sierra Leone duly arrived, but pending departure by sea for West Africa in December 1951, a few months were spent as Surgical House Officer at Scartho Road Infirmary, Grimsby.

Freetown, Sierra Leone

Along with a few other young doctors I arrived in Freetown, Sierra Leone, in mid December 1951, and spent the whole of my first tour of duty, lasting some 14 months, working either at the Connaught Hospital in the capital, or at one of the peripheral clinics in the Peninsula, or as medical superintendent at Kissy Mental Hospital, where some 200 patients from Sierra Leone and The Gambia were confined. Many such patients were detained by virtue of a Court Order, having been found guilty of a serious crime, but insane. Several others had previously been studying overseas, and were well-educated, but had succumbed to the stresses involved by developing a major psychosis, and had been repatriated. Unfortunately, the therapeutic modalities available in those days were exceedingly limited and generally not obtainable in West Africa at the time.

Some of the clinic facilities also left much to be desired. At the Clinetown railway workshops, for example, the clinic had an earthen floor traversed by railway lines, and was separated from the sheet metal workshop by a corrugated iron partition. Consequently, the noise level was such that it was often impossible to conduct a conversation, let alone use a stethoscope. It is pleasing to record that representations to the Director of Medical Services and the Manager of the Railway effected a swift improvement.

The daily routine was not without its compensations. Thanks to the interest and encouragement of the senior consultant surgeon in Freetown, a good deal of practical experience was obtained in the management of many of the surgical emergency situations commonly encountered in tropical Africa, and this was to stand me in very good stead when I returned to Sierra Leone for my second tour of duty in mid 1953.

In earlier times Sierra Leone was indeed "The White Man's Grave" as was evident from the European cemeteries which existed at places such as Makeni and Batkanu,as well as in Freetown itself. Examination of the headstones confirmed that a high proportion of the officers concerned had succumbed within the first few months of arrival in the country, often from Blackwater fever (a complication of malaria) or from Yellow Fever.

Makeni, Northern Province

Shortly after returning to Freetown in May 1953, I was posted upcountry to Makeni, then the headquarters of the Northern Province of the Protectorate. I arrived there after a 12 hour train journey on the Sierra Leone Government Railway, in itself an interesting experience. This was a relatively narrow gauge railway, though the passenger compartments were wide enough to provide a single seat on each side of a central aisle. Powered by a wood-burning steam locomotive which produced an abundance of smoke and sparks, it also required frequent stops to replenish the firewood supply. Consequently,

progress was slow, averaging about 13 mph, and it was not uncommon to see children running alongside the track and keeping up with the train!

The Medical Officer at Makeni, like all such district medical officers, was responsible for all aspects of the medical and public health care of the population of his district, which in this case was the largest in the country and was estimated[1] to contain some 360,000 people in the two sub-districts of Bombali andTonkolili.

Clearly this was a task of some magnitude, given that the total medical staff in the district consisted of himself plus a missionary doctor based at the American Mission Hospital at Kamakwie, some 40 miles northwest of Makeni. There was also a doctor in charge of the Endemic Disease Control Unit which, with assistance from WHO and UNICER was endeavouring to control and hopefully eradicate Yaws from the country. The EDCU was administered by Medical Department Headquarters in Freetown.

Subordinate staff at Makeni Hospital included one Dispenser who was essentially the hospital manager, several nurses and various male orderlies, two of whom, Pa Raka and Pa Mende, were illiterate yet very competent at sterilising instruments and setting up the theatre. A clerk and Sanitary Inspector completed the local departmental personnel. (Fig I)

Makeni Hospital had 27 beds, consisting of male and female wards plus two small mud huts, together with a small operating theatre, an office with clerk and typewriter, and an outpatients department. Rainwater catchment tanks outside the hospital provided the water supply except for a month or two during the dry season, when water was carried from the nearby river in buckets. There was no electricity supply, so only natural lighting was available in the operating theatre, where the windows consisted of insect screening. A kerosene pressure lamp was of course used if an operation proved essential during the hours of darkness.

While Malaria was undoubtedly the most important endemic disease, and no doubt still is, Yaws (Fig 2), Trypanosomiasis.Tuberculosis, Leprosy (Fig 3) and Filariasis were prevalent, as was the disfiguring elephantiasis (Fig 4) resulting from the latter condition. Smallpox outbreaks (Fig 5) occurred periodically, often associated with illegal diamond mining, increasingly prevalent in the area at the time. A small outbreak of cerebro-spinal meningitis occurred at Makali during December 1953, and I recorded that "I have several patients in the hospital rather more ill than is good for my peace of mind".

Gonorrhoea and other sexually transmitted diseases were widespread, though laboratory confirmation was seldom available, and the consequences including urethral stricture in men, salpingitis in women, and purulent conjunctivitis in infants were common. Hookworm infestations were common, as were other helminths including Guinea worm. Large intramuscular abscesses were frequently seen, requiring incision and drainage, but often with no very obvious cause.

Outpatient attendances were at first unremarkable, complaints being mostly about ill-defined fevers, but within a few days of the first successful surgical procedure, attendances increased, rising within a short time to some 80 to 100 new outpatients every day. (Fig 6)

Local confidence was further boosted when a Paramount Chief had his hernia repaired, an event which was reported in the "Weekly Bulletin" published by the Public Relations Office in Freetown.

Again, one of the dozen or so expatriate government officers based at Makeni had to undergo surgery (by the light of a hurricane lamp) when he developed acute appendicitis late one evening after the ferries were closed, preventing his evacuation to Freetown.The patient made a good recovery, and after a day or two was transferred to Hill Station Hospital in Freetown to convalesce.

Hernias of all kinds were prevalent, no doubt associated with the hard physical labour demanded by subsistence farming, and possibly compounded by the relative lack of protein in the local diet. Many of these cases presented at a late stage, either strangulated or as bulky sliding hernias, a typical example being shown in Fig 7.

When the village of Binkolo was visited in 1953 at the request of the local Chief, it was found that he had lined up a total of 76 men from his area and reported that they were all suffering from hernias. On examination it was confirmed that the great majority were indeed so afflicted. The pool of hernia sufferers in the country as a whole must therefore have been quite staggering, and well beyond the resources of the Medical Department to manage in any comprehensive way.

Surgical procedures during the period included 108 hernia repairs (12 bilateral, 85 right and 31 left), 9 femoral hernia repairs and 7 hydrocoele operations. In addition, two inguinal hernias and several hydrocoeles were repaired in

the course of operations for elephantiasis of the scrotum. Some of the other surgical procedures carried out during the period are listed in the Appendix.

It is interesting that the ratio of right to left inguinal hernias in this series (9:4) is substantially higher than the 4:3 ratio referred to byAird[2]. No hypothesis is advanced to explain this discrepancy.

As will be seen from the foregoing and the Appendix, (extracts from the Makeni Hospital Operations Register from June 1953 to September 1954), a surprisingly wide range of emergency and other conditions were seen and treated. In the great majority of cases anaesthesia, (spinal, regional or local anaesthetic block), was administered by the single-handed surgeon. General anaesthesia was rarely employed, open ether being the only form available.

In addition to those procedures in the Operations Register, many minor procedures were also carried out. For example, in September 1953, minor procedures totalled 39 in addition to the 18 listed in the Register. These included suturing of lacerations, incision of abscesses and dilatation of urethral strictures.

Such surgical drapes as were available were laundered in the usual way, but of course there were no facilities for sterilisation. Surgical gowns for the operating theatre were not available, and in any event the heat and humidity precluded their use.

Despite these somewhat primitive arrangements, it was remarkable that wound infections were so uncommon, most surgical incisions healing by first intention. This applied even in hernia case no. 234, which had involved resection of bowel and anastomosis. I recorded that "much to my surprise, this man made an uninterrupted recovery".

I had to conclude that this remarkable resistance to infection stemmed from the fact that this community represented the survivors of a lifetime's exposure to all manner of micro-organisms, parasites and disease.

There was a good deal of trauma, including a substantial number of gunshot and related injuries, many associated with locally made muzzle-loading firearms which tended to burst at the breech if the powder charge was excessive, or the firearm old and worn, causing irreparable damage to the hunter's hand. Several mid-forearm amputations were required as a result of this kind of injury, with three in one week during March 1954.

Mercifully, deaths in this series were unusual and mostly predictable. Only one patient, no. 254 who had peritonitis from a gangrenous ileum, died during the course of an operation to relieve his strangulated hernia. No. 44 died later following gunshot wounds to his abdomen and chest; and no. 212 died seven days after appendicectomy for acute phlegmonous appendicitis leading to portal pyaemia. Finally, one man died unexpectedly several days after an operation for haemorrhoids, probably from a pulmonary embolus.

Apart from the infectious endemic diseases mentioned above, there was a recognised pneumonia season in May/June when hospital beds were filled with a significant number of very ill patients suffering clinically from a lobar pneumonia. In the absence of x-ray and microbiological facilities, however, it was not possible to characterise this syndrome more accurately.

Obstetric emergencies generally presented late on in labour, often with the baby already dead or seriously distressed, and the mother exhausted. Seldom was it possible to intervene at an early enough stage to save both parties, but occasionally Caesarean Section or forceps delivery secured a favourable outcome, as in case no. I 13. This resulted in an interesting letter being received from a missionary nursing sister some six weeks later (Fig 8). Unfortunately, other cases (e.g. nos. 129 and 183) required the use of destructive instruments long since relegated to obstetric museums in more developed countries.

The late results of difficult childbirth were also all too commonly seen, usually in the form of vesico-vaginal fistulae, a very distressing condition for all concerned.

Particularly interesting cases included no. 91, where a live baby of approximately seven month gestation was delivered at laparotomy in a case of right tubo-ovarian pregnancy; and no. 270 which was a direct consequence of female circumcision. This had resulted in the injured labia healing together almost perfectly, leaving only a tiny introitus, which, on presentation, was being distended by one of the baby's heels. It was therefore necessary to rectify this situation before continuing the breech delivery. This case may also be considered as a remarkable testimony to the vigour and tenacity of at least one local spermatozoon.

Discussion

It is hoped that this description of the range of diseases and injuries encountered in a single-handed medical practice in Sierra Leone during the 1950s will help to balance the emphasis currently being placed on the tragic HIV/AIDS epidemic sweeping through Africa.

The facts must surely be that this epidemic exists in addition to all the other illnesses and trauma afflicting African society at this time, with the exception of course of smallpox, (eradicated as a consequence of a massive worldwide smallpox eradication campaign mounted by the World Health Organisation and culminating in total eradication by 1979).

Indeed, it may be said that HIV/AIDS in Africa has taken the place of smallpox as a major endemic disease in that continent, and it is perhaps not too fanciful to speculate that the eradication of smallpox may somehow have tipped the delicate ecological balance enjoyed until then by myriad pathogens interacting with each other and with human and animal society.

Could it be that the eradication of smallpox in the 1960/1970s created favourable conditions for the HIV virus to emerge and infect humans in the 1980s? That the first cases of HIV infection were reported from New York and California in 1981 suggests that the chronological sequence is not incompatible with the suggestion.

Conclusion

It is hoped that this brief account of the wide range of medical, surgical and other conditions observed and treated during the early 1950s will contribute in some small measure to the medical history of Sierra Leone during its final years as a British Colony and Protectorate.

It was certainly a period which placed the author in a unique position of responsibility and gave him a range of experience far beyond what might have been expected had he not been given the opportunity of practising medicine as a National Service medical officer in West Africa.

References

1) Sierra Leone Protectorate Handbook, 1954
2) Aird, Ian. 1950, Companion in Surgical Studies, page 528, Livingstone, Edinburgh.

Footnote

The Figures were prepared from colour slides taken at Makeni in 1953/54. A few have deteriorated considerably in the interim but are the best now available. Verbal permission to take these photographs was obtained from all patients portrayed in Figs. 2 to 5 and 7.

The author still possesses the walking stick with the carved ivory head which was presented to him by the Hospital staff on his departure from Makeni, not for himself be it noted, but for his father who, according to local perception, was clearly responsible for much of the activity described in this paper.

Author.

Dr Macgregor graduated in medicine in 1950 from St Andrews University. He served in HM Colonial Medical Service from 1951 to 1975, initially in Sierra Leone as a general duty medical officer and then from 1957 in the South Pacific Health Service, retiring in 1975 as Director of Medical Services of the British Solomon Islands Protectorate.

He was a W H O Consultant in Malariology, and gave advice to the Governments of Papua New Guinea and Malaysia in connection with their malaria control programmes. He was appointed OBE in 1971.

From 1975 he was Chief Administrative Medical Officer for the Shetland Health Board in Scotland, until 1981 when he became District Medical Officer for Perth & Kinross. He retired from the National Health Service in 1992 at the mandatory age of 65, but continued in part-time medical work for the next 10 years.

Fig. I : Hospital Staff Makeni 1954

Appendix

Makeni Hospital, Northern Province, Sierra Leone
Extracts from Operations Register 1953-54

		DIAGNOSIS	PROCEDURE
1	06/06/53	Cpd frac R tib & fib	Excision & skin graft
2	07/06/53	Ruptured mesentery	Laparotomy
5	20/06/53	Gunshot R thigh	Excision & removal FBs
11	11/07/53	L cataract	Extracapsular extraction
14	18/07/53	L panophthalmitis	Evisceration L eye
22	13/08/53	Dystocia etc	Classical Caesarian Section
24	21/08/53	Elephantiasis of scrotum	Excision
26	21/08/53	Dystocia etc	Forceps
30	28/08/53	Hepatic neoplasm	Laparotomy: biopsy
38	12/09/53	Abdominal injury: prolapsed gut	Laparotomy: reduction of prolapse
41	18/09/53	Fibroids & R chronic pyosalpinx	Subtotal hysterectomy
44	23/09/53	Gunshot injuries colon & lung	Laparotomy & repair; drainage
45	27/09/53	Retention of urine	Bougies & dilatation
48	29/09/53	Cervical fibroid & teratoma ovary	Myomectomy & excision teratoma
55	09/10/53	Recto-vaginal fistula	L Inguinal colostomy
76	10/11/53	Thyroid adenoma	Enucleation
91	05/12/53	R tubo-ovarian pregnancy	Abdominal delivery of live infant
92	08/12/53	Elephantiasis of vulva	Vulvectomy
93	08/12/53	L otitis media	Paracentesis tympani
97	24/11/53	Dystocia; dead baby	Mid-pelvic forceps
108	16/01/54	Urethral stricture & extravasation	Supra-pubic cystotomy
113	22/01/54	Dystocia; Foetal distress	Classical Caesarian Section
129	14/02/54	Dystocia; dead foetus	Craniotomy; cranioclast extraction
130	15/02/54	Explosive injury R hand	Mid-forearm amputation R
151	03/03/54	Gunshot wounds	R orchidectomy; wound toilet & suture
183	05/05/54	Impacted shoulder presentation	Decapitation; forceps head; manual removal
184	07/05/54	Acute appendicitis	Appendicectomy
187	07/05/54	Large Lipoma R shoulder	Excision
194	14/05/54	External haemorrhoids	Haemorrhoidectomy
198	18/05/54	Elephantiasis of penis	Plastic repair
212	11/06/54	Acute phlegmonous appendicitis	Appendicectomy & drainage
223	29/06/54	Fungating tumour L buttock	Excision
234	13/07/54	R Sliding Hernia & R Haematocele	Excision of Mass. Ileo-colostomy
235	16/07/54	Vesico-vaginal fistula	Repair
245	27/07/54	Wound L foot	Skin grafting
246	27/07/54	Bush cow lacerations R arm & leg	Wound toilet & suture
254	01/08/54	Strang. IH & Peritonitis	Herniotomy. Excn of ileum. Died during Op.
259	07/08/54	Infertility	Dilatation & curettage
260	07/08/54	Haemorrhoids & rectal stricture	Haemorrhoidectomy. Died later.
270	20/08/54	Fusion of labia; breech presentation	Vulvotomy & repair; breech delivery
275	26/08/54	Elephantiasis of scrotum; L hydrocoele	Excision, Jaboulay s operation
278	31/08/54	R ovarian cyst	Laparotomy; ovarian cystectomy

Fig. 2 :Yaws

Fig. 3 : Leprosy

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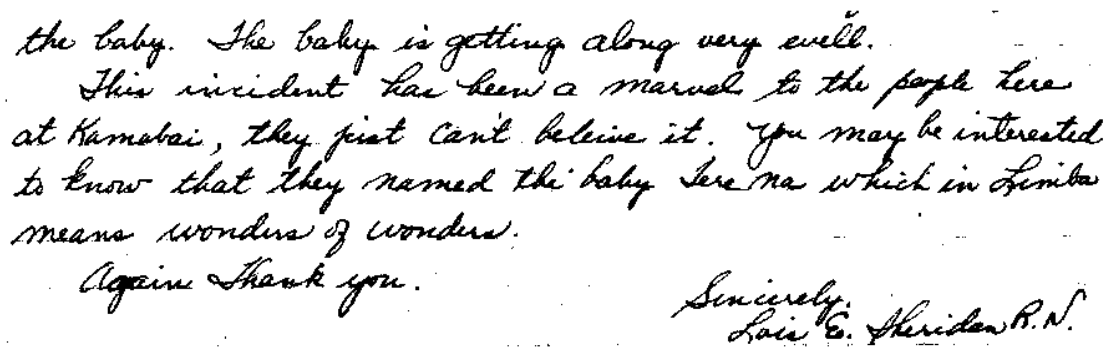
Fig. 4 :Elephantiasis

Fig. 5 : Smallpox

Fig. 6 : Out-patients department Makeni 1954

Fig. 7 : Sliding Hernia



the baby. The baby is getting along very well.
This incident has been a marvel to the people here at Kamabai, they just can't believe it. You may be interested to know that they named the baby Lere na which in Limba means wonders of wonders.
Again thank you.

Sincerely,
Lois E. Sheridan R.N.

Fig. 8 : Part of a letter 1954