

ART. V.—*Dysentery or Dysenteric Diarrhœa in West African Prisons.*^a By ST. GEORGE GRAY, B.A., B.Ch., M.D. Univ. Dubl.; Senior Medical Officer, West African Medical Staff, Southern Nigeria, West Africa.

THE medical officer in charge of a West African prison is frequently confronted with a disease, or rather a group of diseases, characterised by frequent scanty stools consisting chiefly of mucus (often blood-stained), by a “cutting” or “twisting” pain in the umbilical region and by straining at stool and tenesmus. A strong man is quickly reduced to a feeble skeleton, while one already debilitated by disease, privation, or old age soon dies of exhaustion. If the patient recovers he is enfeebled, and remains unfit for work for weeks or months.

This dysentery—or dysenteric diarrhœa—is one of the most serious problems that the medical officer of a West African prison has to deal with, and to eradicate it from the prison is probably his most difficult task, hampered as he is in many cases by the most unfavourable conditions it is possible to conceive.

West African prisoners are generally recruited from the lowest and most degraded types of savages, and they resent the white man’s interference with their customs—very often abominably filthy—and when they fall ill they refuse to take his medicine, and occasionally make up their minds to die, which they do in spite of all or any treatment that the medical officer may carry out or attempt to carry out. If “dysentery” gets into a prison there will surely be many cases, and probably more than one death, before the medical officer can stamp it out—if he ever does so.

When I took medical charge of Calabar Prison in November, 1907, there were many cases of dysentery and beri-beri in the prison, and the prisoners were dying at the rate of

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from three to ten every week—my predecessor had seven deaths in one night shortly before I took over from him—the majority of these deaths being from “dysentery” or dysenteric diarrhœa. There were about four hundred prisoners in Calabar prison, and about 25 per cent. of them were constantly on the sick list either from dysentery or beri-beri. Prisoners suffering from beri-beri were isolated and sent to another district for change of air, and very few died.

With dysentery it was different. The patients were isolated in a shed outside the prison walls, and, although their diet was carefully regulated and their drinking water boiled, dysentery increased and the prisoners died at an appalling rate.

During the month of November there were more than twenty deaths, nearly all from dysentery. The drinking water was boiled, the prisoners were carefully inspected, the prison itself was thoroughly scrubbed with cyllin, izal, and other disinfectants, the walls were limewashed or tarred, and the cells were fumigated with sulphur and formalin. The windows were also enlarged to provide better ventilation.

Prisoners reported sick with diarrhœa or dysentery at the rate of two or three or more every day. Each one was given a dose of castor oil—with or without opium—and the stools were examined daily. If they contained mucus and blood the patient was given half an ounce of the following mixture every four hours:—

R Magnesii sulphatis	-	-	-	gr. 437.5
Cupri sulphatis	-	-	-	granum
Acidi sulphurici diluti	-	-	-	3 i
Aquæ ad	-	-	-	3 iv M.

and the patient was sent to the isolation shed. There was almost invariably an improvement for a time, but the improvement did not always continue. The stools became less frequent and larger, and the griping pains in the umbilical region became less severe or ceased

altogether. After a few days blood and mucus disappeared from the stools, and the patient began to develop an appetite for solid food. Then the trouble began again. The patients' friends would smuggle food and native "medicine" into the prison, and the griping pains would return and blood and mucus reappear in the stools. In other cases prisoners would obtain and chew the leaf of a certain leguminous tree which caused purging with griping and tenesmus and with bloody stools. Unfortunately the Curator of the Botanic Gardens could not identify this tree. The prisoners did this in order to get off work, but sometimes they overdid it and died. One morning I caught a prisoner (who had reported ill with dysentery the day before) chewing some of these leaves. I immediately had him put into a cell and kept in solitary confinement until he recovered, which occurred in about two days. I then had a few more of the dysentery patients put into solitary cells, and these also recovered quickly, while those in the isolation shed did not. I then placed each prisoner who reported ill with "dysentery" in a solitary cell, and in less than three weeks I had the disease under control. The treatment continued the same, and the stools were examined daily. *Amœbæ* were found in all cases examined microscopically.

Ipecacuanha was tried but without success. Given in powder form it was promptly vomited, and the prisoners one and all would not swallow pills, either salol or keratin-coated. The difficulty of administering medicine to from fifty to seventy-five unwilling savages, who look with suspicion upon everything the white man does for them, can be realised only by one who has tried it. As a result of the solitary treatment the death-rate rapidly fell. In November there were twenty-six deaths—nearly all from "dysentery." I began the "solitary" treatment about the end of the first week in December, and in that month there were only eleven deaths from all causes. In January, 1908, there were only three deaths

in the prison, including two executions. The third was a case of dysentery that had resisted all treatment since the beginning of December, and the patient had made up his mind to die as soon as he became ill.

During February and March there were no deaths from any cause, and in April there were two deaths from pneumonia, but there was not a single case of dysentery in the prison.

Early in May I was transferred to Warri in the Central Province. There I found a state of affairs similar to what I had found in Calabar six months previously.

There are about two hundred prisoners in Warri, and these were dying at the rate of two or three a week, nearly all the deaths being due to dysentery and a few to pneumonia. I was unable to adopt the solitary treatment at Warri, as there were only four solitary cells in the prison, and I at once condemned these as unsuitable, as they were badly ventilated and very dark. The prisoners were a more heterogeneous assortment of savages than at Calabar, and their customs differed widely; but they all received the same kind of food and were subject to the same discipline.

The question of diet was a more serious one than at Calabar, as the scale of prison diets had been drawn up apparently without any regard to tribal customs, which must be taken into consideration in all dealings with natives. Some tribes would eat only one form of carbohydrates, which other tribes would not touch, but all prisoners were given exactly the same kind of food indiscriminately. An attempt had been made to give variety to the food by changing the bill of fare on certain days of the week, but the prisoners would not eat the food they were not accustomed to, or if they did they went ill with digestive troubles, often culminating in dysentery or dysenteric diarrhœa. The yam eaters starved on "foo-foo" days, and the "foo-foo" eaters went hungry when yam was the only form of carbohydrate given. Others would eat only rice, and some

wanted plantain or "garri." The leaf which caused some of the dysentery in Calabar prison was apparently not so well known in Warri, and I could not trace any cases to it.

After a careful study of the diet scales I came to the conclusion that the dysentery in Warri prison was largely due to unsuitable food and aggravated by the filthy habits of the prisoners themselves. With the consent of the executive authorities I issued instructions that each prisoner should be given the class of food to which he was accustomed in his own country if this could be done without seriously interfering with the prison regulations. This was done with the result that within three months dysentery practically disappeared from Warri prison, and no new case occurred that could not be got under control in a day or two.

Dysentery has been the scourge of West African prisons, but if more attention is paid to native customs with regard to diet, and if those who deliberately eat noxious plants or garbage (gangs of prisoners working outside the prison frequently raid dust bins and rubbish heaps in search of scraps of food) are kept where they cannot obtain these delicacies it will cease to be dreaded as it is now by prison medical officers, and it will be regarded as merely one of the incidental ailments of prisoners, as it is of all classes who reside in the tropics.

With regard to the disease itself the symptoms which are fairly constant are frequent and scanty stools passed with great straining, often consisting of nothing more than a drachm or two of mucus—generally, but not always, streaked with blood—and occasionally dirty grey sloughs smelling abominably offensive. The patient complains of griping pains in the umbilical region, as if his bowels were being twisted or "tied with knots." There is usually a moderate rise of temperature at first, but later it becomes subnormal. The patient becomes emaciated and exhausted from the constant straining, and when death occurs it is from exhaustion, the body being literally

worn out. The tongue is coated with a dirty fur or stripped in patches, and the teeth are covered with sordes. The urine is scanty, and hæmorrhoids are not uncommon.

Post mortem the mucous membrane of the colon may be more or less completely covered with sloughing ulcers (gangrenous colitis). In other cases there are mere patches of inflammation of the mucous membrane, but this is generally in those who died shortly after chewing the "leaf," which is sometimes found in the bowel, when the whole intestinal tract is affected. Hæmorrhage is not profuse, and perforation is unusual.

Amœbæ (*Entamœba histolytica*?) have been found in all cases microscopically examined, but the finding of protozoa in the stools is no evidence that they are the cause of the disease, as amœbæ may be found in patients not suffering from dysentery.

I have not seen a case of liver abscess in any of these prisoners. They either die or are discharged from prison, and are lost sight of before liver abscess occurs.

Treatment.—I have had such good results with sulphate of magnesium that I have not had occasion to try any other drug. Ipecacuanha has not been a success with prisoners for the reasons mentioned above, and it may be questioned whether the ipecacuanha treatment has any advantage over irrigation and gentle saline purgation. Opium appears to be positively harmful. It soothes pain and gives temporary relief, but the patient does not get better, and I have, therefore, discarded it altogether in the treatment of dysentery.

Diet.—This must be in accordance with the native customs, which vary in the different tribes. Very few natives of West Africa will touch milk, which is not suitable in any case. Arrowroot pap made with water is good when they can be persuaded to take it; but in the majority of cases they seem to do well on yams, plantains, garri, or other native foods that would give the physician occasion for the greatest anxiety if the patient were

a European. They like plain biscuits, however, and this is about the only form of "white man's chop" that can be given with safety to all.

ART. VI.—*Temperature Curve in Pulmonary Tuberculosis.*^a By MADELEINE S. BAKER, B.A., B.Ch., B.A.O., M.D. Univ. Dubl.; Assistant Medical Officer, Consumption Sanatoria of Scotland, Bridge of Weir, Renfrew, N.B.

ALTHOUGH in treating pulmonary tuberculosis it is usual to regard the temperature range as the most reliable guide to the patient's condition and progress, no other clinical aspect of the disease has offered to my mind such difficulties of interpretation.

On referring to the writings of experienced workers in this special branch of Medicine, one finds that many attempts have been made to classify the various types of fever, and to explain on pathological or bacteriological grounds, their presence in relation to the different stages of the disease in its active, and inactive, forms. Such classifications, however, offer little satisfaction to those who are being continually confronted by the striking polymorphism of the temperature range and its attendant manifestations exhibited by phthisical patients.

I have attempted here to consider only some points bearing clinically on its diagnostic, prognostic, and therapeutic significance.

Technique of Temperature Measurement.—The number of observations to be made daily must vary according as the record kept is to be used in the supervision of recognised cases of pulmonary tuberculosis, or as an aid to the diagnosis of the disease in its incipient stage. The tendency to error in either case appears to be on the side of infrequent rather than too frequent taking of the temperature.

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