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TROPICAL DISEASES OBSERVED IN SIAM

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DES MOINES, IOWA

As the Central Hospital of the city of Bangkok came under the administration of the local sanitary department, it afforded an excellent opportunity to observe and study various tropical diseases as they appeared in the outpatient department of the hospital. In the different textbooks on this branch of medicine, seldom if ever does one see a reference to Siam; and it is thought that a short paper on the more important diseases observed may be of interest.

SKIN DISEASES, INCLUDING ULCERS

Of the pyogenic infections little need be said. They are very common as in other tropical countries, with special reference to pyosis mansonii and purulent folliculitis of the various parts of the body.

The great majority of the skin diseases found come under the simple dermatomycoses, and of these the most common one observed was tinea flava. A few cases of tinea imbricata appeared. Several cases of sporotrichosis have been treated with mixed iodids resulting in the complete disappearance of all lesions. Only one case of mycetoma has been seen, which was in a native Siamese—a case of long standing, affecting the foot. The sclerotia were yellowish white and of different sizes. Local treatment and general medication produced no results, and amputation was advised; but the patient refused, and the case was lost sight of.

Several cases of juxta-articular nodules have been seen, in two of which the nodules were located in the gluteal region. The patients were all Siamese, and I have seen no cases in Chinese. It is possible that the habit of sitting on the haunches is a predisposing cause to the gluteal regions being affected.

With regard to ulcerations, I have lately finished the examination of 100 ulcers as they appeared in the clinic for treatment. A digest of my paper on this subject appearing in the government Red Cross medical journal may be of interest. Eggers¹ reported on the examination of 2,874 specimens and found that 9.3 per cent. were positive for spirochetes of one or more types. I followed his method of staining so that the results might be compared. Eggers' Type A spirochete is thus described:

A long, tenuous organism, which typically possesses from three to four complete, regular convolutions of considerable

amplitude. It is on an average 13 microns long, but varies considerably from this figure in both directions. As a rule it takes a bluish stain with Giemsa's solution (stained twelve hours).

This organism he considers the typical organism of tropical ulcer. My results are given in the accompanying table.

Thus of 100 ulcers, 10 per cent. showed spirochetes all of Type A (Eggers). From these results I am inclined to look on this organism, which corresponds to *Spiroschaudinnia schaudinni* Prowazek 1907, as a superimposed infection on an ulceration. Certainly this spirochete was not limited to a disease of distinct clinical features; in fact, it was to be found in a variety of diseases with great variations in clinical features. It is of interest to note that in two of the ulcers typical Leishman-Donovan bodies were found; consequently, a diagnosis of oriental sore was made.

Of the dermatomycoses I have had a case of dermatitis macrogyrata in an ambidextrous Chinese carpen-

CLINICAL DIAGNOSIS AND LABORATORY FINDINGS

Diagnosis	Spirochetes	Type (Eggers)
1. Tropical ulcer	Positive	A
2. Tubercular ulcer	Positive	A
3. Varicose ulcer	Positive	A
4. Ulcus infantum	Positive	A
5. Undetermined ulcer	Positive	A and Leishman-Donovan bodies
6. Syphilitic ulcer	Positive	A
7. Tropical ulcer	Positive	A
8. Tropical ulcer	Positive	A
9. Tropical ulcer	Positive	A
10. Undetermined ulcer	Positive	A and Leishman-Donovan bodies

ter. The patient was advised to stop all work and to keep the hands covered with ointment of phenol and well bandaged. A marked improvement has attended this treatment.

Two typical cases of keratoma plantare sulcatum have been seen. They both gave a history of almost complete recovery during the dry season, but during the rains and especially the last flood season, the disease appeared in all its severity. The deep creases and the typical punched-out holes were quite evident on the soles of the feet. Keeping the feet dry and covered with ointment of phenol had a good effect.

Leukoderma and albinism are extremely common, as well as chloasma of the various types.

Of the tumors, rodent ulcer has been seen in a native. Keloids and fibroma molluscum are common. Ichthyosis is very common.

PLAGUE

Plague is endemic, and hundreds of persons succumb to it every year; but fortunately the government is now awake to the danger, a royal plague commission having but recently been appointed to consider ways

1. Eggers: J. Infect. Dis. 16: 269 (March) 1915.

and means to control it. I have seen no cases of pneumonic plague in human beings; but having had occasion to examine a number of cats that had died suddenly in and near a large government institution, I found they had died from pneumonic plague.

Fig. 1 (Case 3).—Leprosy: appearance of patient in April, 1917.

The ambulatory type of bubonic plague is common, and in this connection I wish to mention two cases that are of interest.

CASE 1.—A boy, aged 18 years, who came to the outpatient department complaining of an injury to the palm of the right hand, had fallen two days previously, and a splinter of wood had entered the palmar surface of his hand. There was a rise in temperature of 1 degree, and a very slight amount of swelling of the hand. The glands were not enlarged. The patient complained only of "stiffness in the hand." He did not look ill, and plague was certainly not thought of. The hand was treated surgically, and for some unaccountable reason the patient remained in the hospital for treatment, as usually these minor injury cases are sent home with instructions to return for treatment. In twenty-four hours this boy died, and a postmortem examination revealed a septicemic plague.

CASE 2.—A man who came to the outpatient department on account of an injury to his right foot was suffering from an open wound of several days' standing with a dirty discharge. The patient felt well, had a temperature 2 degrees above normal and there was a slight bubo in the groin. This was examined for bipolar-staining bacilli, and as these were found, a diagnosis of plague was made and the patient sent to the plague hospital, where he recovered.

The suppression of plague in Siam presents many difficulties, of which the religion of the country constitutes the first and foremost. The Buddhist religion forbids the taking of life. I do not attempt an explanation of the taking of human life during war; suffice it to say that it is impossible at the present time to get a

Buddhist to kill a rat. Also one has to fight "vested interests." The erection of rat-proof buildings, and sanitary measures as a whole encounter great opposition, and sad to say, the Europeans are as bad as the natives when it comes to blocking improvements. Again, the little item of available funds is rather perplexing; as a matter of fact, not only must one overcome the foregoing difficulties, but one should possess a large stock of faith, hope and charity; then the plague problem might not look so big.

KALA-AZAR

I have seen only one case of kala-azar. Jan. 31, 1918, a native-born Siamese who had never been out of the country appeared in the outpatient department for treatment, complaining of "weakness and swelling." He was advised to remain in the hospital under observation, which he did. After several examinations, the parasite *Leishmania donovani* was demonstrated. The patient died after being in the hospital one week, and a postmortem examination disclosed a large, red spleen in which parasites were easily demonstrated. Although this is the only case I have seen, and have heard of only one other case, yet dermal leishmaniasis is not uncommon. At least 2 per cent. of all ulcerations coming under my observation showed *Leishmania tropica*.

FILARIAL DISEASE

Filarial disease is not uncommon, as is evidenced by the unsightly deformities appearing for treatment. It

Fig. 2 (Case 3).—Leprosy: appearance of patient one year later, April, 1918.

is an easy matter, comparatively speaking, to demonstrate the microfilarias, because the native Siamese has a habit of sleeping in the day and doing what little work he does at night, which is not such a bad idea, considering the extreme heat of the day.

We have had elephantiasis of the lower extremities and the scrotum, filarial abscesses, hydrocele and other complications. I have had several cases of what is

known locally as "Bangkok fever," the blood examination revealing a filarial infection, with or without a malarial infection. I recently saw a man, one of the better class Siamese, who complained of a rupture. His swollen leg of long standing caused him no anxiety; being not greatly enlarged, it did not interfere with locomotion, but the swelling in his groin worried him. On examination a distinct swelling, soft and producing an impulse on coughing, was made out. But it would not completely disappear when the patient reclined, and also a blood examination showed microfilariae. Puncture revealed lymph; microfilariae could not be demonstrated.

Fig. 3 (Case 4).—Leprosy; front view of patient in October, 1917.

LEPROSY

It is estimated that there are in Siam no less than 5,000 lepers. At present no effort is being made by the government to segregate or to treat these people. The various missionary doctors are doing good work, but unfortunately only a small percentage come under their observation. It is hoped that the government will in the not distant future find it possible to build a leprosarium.

Every type is represented, and, as far as I could see, the cases were about equally distributed among the various races that one finds. Rogers' new treatment is being tried out by several men, and good results are reported; but it is too soon to make comments on final results.

It is peculiar that while some observers report most promising and even lasting results with Rogers' treatment, others report exactly the opposite. It would seem advisable, when a new treatment is brought forth for a disease such as leprosy, to appoint an international commission to report on it, and if it is found of value, to insist, so far as that is possible, that those afflicted be given the benefit of such treatment. Too often the medical profession either jumps at conclusions (this may sound rash, but it is a fact) or is influenced by conditions quite foreign to the subject under consideration.

CASES OF LEPROSY TREATED WITH SODIUM GYNOCARDATE AND SODIUM GYNOCARDATE "A"

These cases are reported through the courtesy of Dr. M. Carthew, Assistant M. O. H., Bangkok, Siam.

CASE 3.—The patient had had leprosy two years, when first seen in April, 1917, and had been in prison for three years, so that it appeared that he had been infected in prison. His body and face were covered with red maculae of varying sizes; some had pale centers. There was an extensive dermatitis of legs and feet and arms. The hair had fallen out of both eyebrows, and the eyelashes were very scanty. There was ptosis of the left eyelid and absolute anesthesia of arms, hands, legs and feet. The bacteriologic examination of the nose was positive. The diagnosis was: maculo-anesthetic leprosy.

In April, 1918, the small scattered maculae had all disappeared with the exception of one or two remaining faint red marks on the back and the abdomen. The dermatitis was much improved except over one shin bone where it was in the same condition as a year before. The eyelashes were now normal. The eyebrows had grown, and the mustache and the beard were now growing freely. The anesthesia of legs and feet was improved, but the condition was not yet normal. The patient could feel pinching but not stroking merely. The feet remained partially anesthetic. The anesthesia of the hands and the arms had completely disappeared with the exception of one small spot on the left outer arm below the elbow where a fresh reactionary swelling seemed to be just breaking out. His general health was now normal, and he never suffered from acute joint pains. The result was considerable improvement.

Fig. 4 (Case 4).—Leprosy; front view of patient in April, 1918.

CASE 4.—The patient had had leprosy fifteen years, when first seen in October, 1917, and had been in prison seven years, during which time he had not been isolated till eight months previously. The patient's whole body and face were covered with disseminated tubercles. There were dark red maculae (almost black) on the face, chest, back and right lower leg. These had distinctly raised margins. There was a dark,

large, red macule on the back with raised edges showing extensive scaly dermatitis. There was complete anesthesia of all above-mentioned maculae, also of the outer side of the

returned, and far be it for a native to continue treatment after the signs and symptoms of disease disappear.

SYPHILIS

Syphilis is rampant in Siam. A native coming to the clinic invariably diagnoses his own case, and unfortunately he is not as a rule far off. But of the hundreds of cases of syphilis that I have seen, only three cases of syphilis of the nervous system have been noted. My experience as a member of the American Red Cross Sanitary Commission in the Balkans was the same. Various attempted explanations have been given, and I have thought that a race or people whose nervous system is not so "keen" as that of the modern twentieth century man might be more resistant, or perhaps not so susceptible, to the syphilitic virus. I might mention here that pellagra is not uncommon at all, but I never saw a case with nervous manifestations, and I felt sure that my explanation was soon to become an established fact, namely, that these dull nervous systems are not affected as a rule by the various poisons that do produce effects on more highly developed nervous organisms. But in view of the nervous manifestations of leprosy, beriberi and other diseases encountered, my explanation immediately loses force.

Fig. 5 (Case 4).—Leprosy: dorsal view of patient in October, 1917.

right foot, of the inner side of the left foot, and of the right wrist. The diagnosis was mixed leprosy.

In April, 1918, namely, after seven months' treatment, all tubercles and the dermatitis had completely disappeared, but some of the macular thickening remained. The maculae on the face were much reduced in size and were of almost normal color with two exceptions. As regards anesthesia, sensation had returned in all maculae with the exception of a 2-inch patch on the back and a similar patch on the outside of the right foot. The patient's general health had much improved. The results were that the lesions were markedly improved.

MELANOTIC SARCOMA OF CHOROID

CASE 5.—A Siamese man, aged 32, presented himself at the clinic with a melanotic sarcoma of the choroid of five months' duration. There was metastasis to the parotid gland. There were no signs nor symptoms of any other disease. An operation was performed and the patient made an uneventful recovery.

FRAMBESIA

Frambesia is very common in Siam. Most of the cases seen in the clinic have been in children and in young adults. Unfortunately the patients do not come for treatment until the disease is far advanced. The clinic is not in a position to treat the patients with arsphenamin, but very good results have been had with liquor potassii arsenitis (Fowler's solution). I have my doubts as to the permanent results from the foregoing treatment, but so far no patients have

Fig. 6 (Case 4).—Leprosy: dorsal view of patient in April, 1918.

BERIBERI

Beriberi is very common in Siam. The great majority of the patients appearing in the clinic for treatment are policemen. They all give a history of having

eaten polished rice. Most of the cases are of the dry type. These patients invariably refuse to remain in the hospital, but return home, as they usually receive from one to two months' leave, depending on the

Fig. 7 (Case 5).—Melanotic sarcoma of choroid: front view of patient on entering the hospital.

severity of the case. Most of them return in perfectly good condition because, living up-country, where the only rice they get is hand-milled, they get along very well without any other medication. I even suspect that, although they are impressed with the dangers of a diet of polished rice, they deliberately resume such a diet on their return to Bangkok in order to get sick and thus get sick leave.

PELLAGRA

As stated above, pellagra is not uncommon. The usual history is that of a recurring dermatitis during the hot season, as a rule limited to the hands and feet. The gastro-intestinal history is never lacking; and although gastro-intestinal difficulties are exceedingly prevalent in a tropical country, yet the most typical lesions and history establish the diagnosis beyond a doubt. These patients are never entirely free from the dermatitis, but during the "cold season" they are so very much improved as to consider themselves quite free from any irritating skin disease.

FEVERS

I found that in Bangkok malaria was extremely common, although it is commonly held that while up-country a great deal of malaria is to be found, in Bangkok such is not the case. I took particular pains to investigate the matter, and I found that between 20 and 25 per cent. of all blood films examined showed distinct evidence of malarial infection. These cases are practically all from the Central Hospital, and I think they represent very well the incidence of malaria

in the city of Bangkok. I have seen no cases of pernicious malaria, the great majority of the cases being of the chronic subtertian type. Complications are not common.

In the prevention of the disease it is not to be expected that the native will take all of the precautions that the European will take, yet they all sleep under mosquito nets. The point I wish to make is that Europeans, at least the Europeans living in Bangkok, do not take the necessary precautions. I know of only one house in Bangkok that is screened. I occupied apartments in the Oriental Hotel, and up to the time of my arrival, although the hotel had been doing business several years, not one room in the entire building was screened. My screened apartments made a great "hit," and now the occupants of several of the other apartments are following suit.

BLACKWATER FEVER

Blackwater fever is seldom seen except up-country, where I understand it is not uncommon. I have seen two distinct cases in the city of Bangkok. One was imported from the hill country, and the other patient was a city dweller. Both patients recovered.

RAT-BITE FEVER

A number of cases of rat-bite fever appeared in the clinic. The cases were not unusual, and as stated above, in connection with frambesia, it being impossible to treat these spirochetal infections with arsphenamin on account of a lack of supply, liquor potassii arsenitis was the next best agent to be had at the clinic, and the results were satisfactory if not spectacular.

Fig. 8 (Case 5).—Melanotic sarcoma of choroid: side view of patient on entering the hospital.

DENGUE AND ALLIED FEVERS

Dengue is epidemic every year and plays havoc with the European population. The natives do not seem to suffer so much from it.

Phlebotomus fever is not uncommon. I have seen several cases in Europeans and many in the clinic. It usually runs a course of between twenty-four and thirty-six hours. Symptomatic treatment is the treatment so far and produces good results. The natives think a physician is especially clever to make it clear up in twenty-four hours.

RELAPSING FEVER

Relapsing fever is not very common; at least, that has been my experience. I had only two cases in which I could demonstrate the causative agent. These cases were both in native Siamese who had never been out of the country. One appeared, Feb. 3, 1918, and the other, May 13, 1918. Neither of the patients was acutely ill, and both complained of having been sick for several weeks. Continued observation was confirmed by blood examinations, and appropriate treatment produced satisfactory results. There were no complications except that one patient had a severe bronchitis that had not completely disappeared at the time he left the hospital.

TYPHOID FEVER

I myself have not seen a case of typhoid fever in a Siamese. Certainly there is typhoid fever there, and I have heard of cases, but I have not seen one in the clinic, and blood examinations have all been negative in cases that were remotely suspicious. I think that I am safe in stating that it is very uncommon, and the explanation is that the native has acquired an immunity. He lives on sewer water from birth, and if he is able to survive his infancy he is able successfully to fight almost any kind of intestinal infection. The European, on the other hand, drinks only bottled water and deep well water, and is the one who develops typhoid when exposed to infection. The only cases I heard of were in Europeans.

DYSENTERY

Dysentery is very common in Siam, both amebic and bacillary. An immunity for the dysenteries does not seem to have been acquired to such an extent as it has for typhoid. The combination of chronic amebic dysentery and opium smoking produces a pathologic syndrome that is hard to describe. Either one is bad enough, but the two together make a choice bit for the pathologist. My limited experience with emetin bismuth iodide has been most satisfactory.

INTESTINAL PARASITES

Intestinal parasites are very common, as in all tropical countries (the ameba being considered under

the dysenteries). Ancylostomiasis is very prevalent, especially in the north, where, at the present time, an intensive campaign is being carried on by the International Health Board of the Rockefeller Foundation under the directorship of Dr. M. E. Barnes. The immediate results are very satisfactory, but unfortunately the government is not whole-heartedly in the scheme; consequently, permanent results cannot be expected. This is unfortunate, for if the Siamese government had been approached in the right manner originally, no doubt better results could now be expected in the important matter of prevention of reinfection.

CHOLERA

I have seen no cases of cholera, although a few years ago cholera was endemic and quite often epidemic. It is a fact that since the city has built the new and up-to-date water-works, cholera has disappeared.

Now it so happens that the perfectly good city water supply does not supply the entire city. As a matter of fact, that part of the city of Bangkok that lies on the east side of the Menam River is not supplied at all, and many parts of the city proper still use the dirty water of the river; therefore, it cannot be said that the new water supply did away with cholera; it simply disappeared.

OTHER DISEASES

Next to venereal diseases comes tuberculosis in the matter of high rate of admissions to the outpatient department. Tuberculosis presents all of the complications. When I say tuberculosis I have in mind pulmonary disease. The Chinese seem to suffer more than the others. I think this is due to the fact that they insist on living on top of each other, so to speak. The other races, although crowded and dirty, do not occupy such terribly congested places as the Chinese. But at night they shut up everything tight, pull down the mosquito net, and proceed to infect each other by spitting, coughing and breathing the most foul air, and it is impossible to impress on them the necessity of pure air, sunshine, and other hygienic and sanitary measures. In regard to lung infections, I might state that pneumonia is not uncommon, especially among the soldiers. I think this is due to excessive training in the paddy-fields, the soldiers being made to remain for long periods of time in pools of water and other places equally bad; and often at night, when it gets quite chilly, one can see them tramping through the muddy fields on their way to the barracks. They immediately go to sleep without changing, and naturally many of them are taken ill.

Fig. 9 (Case 5).—Melanotic sarcoma of choroid: appearance of patient on leaving the hospital.

I have seen a number of cases of bronchial spirochetosis, and while examining a number of cats for suspected plague I found one that had died of a lobar pneumonia, a mixed infection in which a spirochete that took the ordinary stains predominated.

VENEREAL DISEASES

By far the greatest number of cases seen in the clinic are venereal. These patients all come in after the disease has become chronic, and few of them return often enough to get cured. Complications are common, as is evidenced by the number of infants with eye infections.

In this connection I wish to mention a disease which, although not venereal, can be conveniently put under this heading, namely, climatic bubo. I have seen a great number of these cases, all presenting buboes in the groin, giving no history of any venereal infection, and a native's word in that respect can be taken, because he thinks nothing at all of such a disease. The cases come late; there is very seldom an acute case. The buboes are usually quite large, firm and not very tender, except in the acute cases. I have aspirated many of the patients just mentioned, and in every case in which a definite nonvenereal history has been given and in which there are no signs of infection on or near the parts, I have been unable to discover any organism. Symptomatic treatment is advised; the results are sometimes good and sometimes otherwise. In old, chronic cases, excision is the best treatment.

TETANUS

The French Hospital in Bangkok averages one case a day of tetanus in the new-born. How many cases must there then be every day in the whole of Siam? The patients with tetanus at the French Hospital are mostly Chinese, the mothers bringing the infants for burial more than for treatment, as they are superstitious about having a death in the house. The death rate is 100 per cent. On the contrary, tetanus is not very common in adults; there have been only two cases in the clinic during the last year and a half. This is interesting because practically all of the emergency surgery cases present dirty wounds, the native coming to the clinic with an old ulceration completely covered over with manure. A "manure plaster" is a household remedy. It seems that the adult has acquired an immunity to tetanus, but unfortunately this immunity is not transmitted to the offspring.

LEAD POISONING

I have had a number of cases that presented all the signs and symptoms of chronic lead poisoning, except the lead line. But this is explained by the fact that the natives chew betel nut, which leaves a deposit on the teeth and gums that is sometimes appalling in amount. I admit that the diagnosis in the first case or two was made by exclusion, but on inquiry I learned that all of the patients came from the same part of the country and that this particular district is noted for its huge deposits of lead, the natives evidently drinking the lead-laden water, or otherwise getting into their system the lead from these deposits.

Typhoid and Carriers.—Expect to trace every case of typhoid to contact with a carrier, either during or after a clinical or unrecognized course of the disease in the carrier.—*Weekly Bulletin, A. E. F.*

SYSTEMATIC CARE IN THE SEXUAL DISEASES *

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In practically all but one branch of medicine, when the war broke out, there was a fairly well defined system which governed and held together the work of each department, and served as a basis whereby it could be lifted up, whole, as it were, and transferred into the army service as a useful and workable unit.

General surgery, for one, was well organized and prepared at once to begin creditable war work. The pathologic laboratory was laid out along such precise and practical lines that it was carried over with ease. Internal medicine, as ever, knew its way about and was ready on short notice to be mustered in and play its part; but the department of medicine which dealt with genito-urinary ills, the very one which was so sorely needed (and the one which will for a long time

Fig. 1.—Floor plan of Buildings X, Y and Z, showing the promotion of patients according to their progress toward recovery.

still in civil life be sorely needed) somehow or other did not seem to be held together in the same portable sense as the others. So the Medical Department of the Army was constrained to collect such loose pieces of this particular branch as could be found, and cement them into the semblance of a specialty and courageously meet the situation to which necessity and a drafted army gave such sudden birth. Since that time there has developed in our camps and cantonments and in our service abroad much that will go to make up a useful beginning in that campaign against the sexual infections which is now plainly ahead.

THE WORK AT CAMP LOGAN

What has been done at Camp Logan to put the collective care of these infections on a rather more orderly basis, as well as to develop somewhat the prophylactic part of the work, is given with the hope that in some degree it may serve as a start for further development along the lines aimed at, which, failing prevention, are

* Owing to lack of space, this article is abbreviated in THE JOURNAL by the omission of several illustrations. It will appear in full in the author's reprints.