MALTA (REMITTENT) FEVER.

AN ANALYSIS OF CLINICAL NOTES OF FORTY-TWO CASES OCCURRING IN H.M.S. "AGAMEMNON."

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(Communicated by the Director-General of the Medical Department of the Navy.)

Definition.—A paroxysmal fever with daily remissions.

General Observations.—Ten cases occurred in 1888 and 32 in 1890. Relapses are excluded. The temperature charts given are limited to the first few days. For the purposes of description I will divide the disease into three types; these types, however, nearly always running one into the other.

I.—Enteric Type.

C. B., aged 21, stoker, on June 11th, 1890, complained of severe rheumatic pains in the right thigh, otherwise he felt well. Profuse sweats occurred on the nights of June 12th to 16th. Purging and pains in the epigastrium on June 17th to 18th, lasting about 20 hours and not recurring till June 25th, when the stools were formed. (See Chart 1.) The enteric

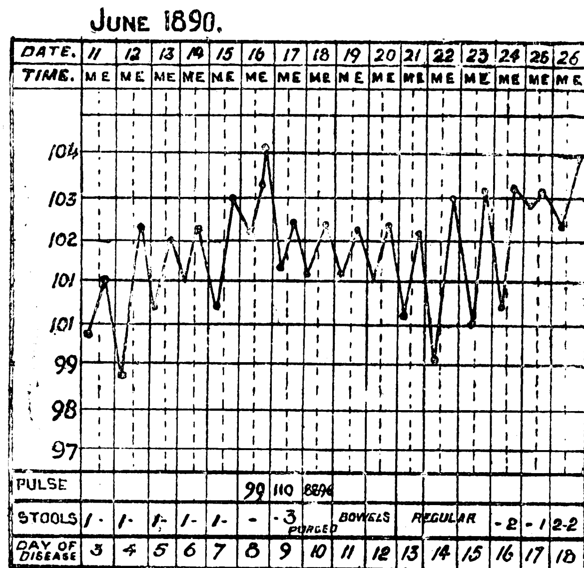

Chart 1.—Enteric type.

symptoms had passed off by June 29th. On July 1st there was more rheumatism, pulse slightly dicrotic, great prostration, and a little talkative delirium. No eruption of any kind. In this case the typhoid or pythogenic poisons predominated. These cases are always severe, but now comparatively rare at Malta; they generally supply the fatal cases. Out of the 42, 3 cases, or 7 per cent., were of this type; 2 occurred in 1888, 1 patient dying.

In the less severe cases the temperature rises by daily gradations, but in the more severe the patient is smitten down in a few hours; he may be delirious in 48 hours, and perhaps dead. I can recall several instances which occurred in 1880 and 1881. The temperature is high from the beginning, there is great abdominal tenderness, dry, brown tongue, and other typhoid symptoms. Many of these cases may be pure typhoid, but I think the malarial poison exists in nearly all, shortening the premonitory stage, heightening the fever, and decreasing the chances of recovery.

Ten years ago, at Malta, this type was more common and virulent than now, and depended entirely, I believe, on the bad water supply. The water for everybody was then obtained almost entirely from rain water collected in tanks, impurities of all kinds being washed in. The soluble poisons were drunk, often in fatal doses, the insoluble filth sank, and when these tanks were occasionally cleaned out in dry seasons—perhaps once in several years—the refuse rivalled night soil in offensiveness.

II.—Remittent Type.

H. W., aged 32, seaman, was seized on June 13th, 1890, with sudden præcordial pain. He had acute right sciatica on June 18th, and both ankles were swollen.

On June 20th, the tongue was brown and dry, and the bowels purged. This state lasted during that day only, but returned on June 26th. There was no eruption nor abdominal tenderness. On July 1st, he had severe sciatica on both sides, and was unable to walk. In this case the malarial poison predominated. Fourteen of the cases were of this type, or 33 per cent.

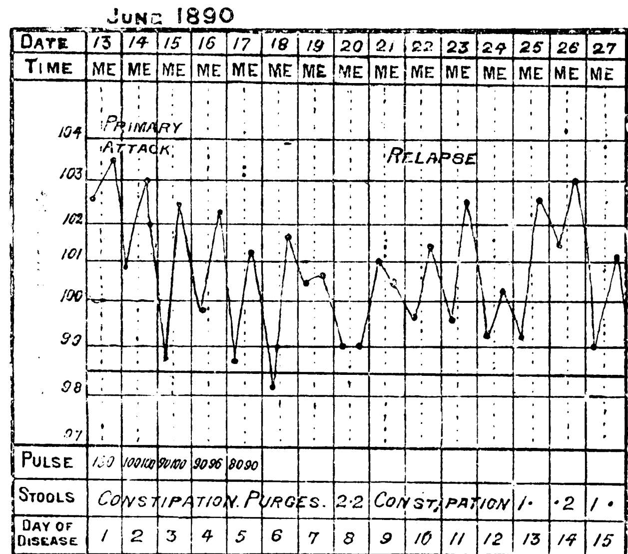

Chart 2.—Remittent type.

In these cases there is a high initial temperature, the remissions are well marked, and there is a daily decline for from seven to ten days, till the temperature approaches the normal; the patient may then go on to recovery in the mild cases, but generally has a relapse at no very distant date.

III.—Hybrid Types.

W. P., aged 40, a stoker, felt ill on the evening of May 3rd with headache, chills, stiffness in joints, and free sweating during the night. The bowels were regular. The appetite was lost on the first day (May 4th). Profuse night sweats continued till May 8th, when they diminished. On the afternoon of May 10th he had shivering, headache, and *malaise*, and on May 25th he had articular rheumatism, increasing anæmia, and loss of flesh. The second relapse occurred on June 10th, and left orchitis on June 11th, followed by general rheumatism. He was invalided on July 2nd after sixty days' sickness.

These cases have received many names: (1) From the locality, as Malta fever, etc.: (2) sweating fever; (3) typho-malarial: (4) "undefined climatic fever" of Sir William Moore. Twenty-five cases out of the 42, or about 60 per cent., were of this type. They run a very irregular course; the primary attack lasts a short time, commences in a trivial way as rheumatism, simple continued fever, sore throat, or with a bruise or sprain which has inflamed. From this type the few recoveries are generally made, but in these so-called recoveries patients are constantly attacked with rheumatism for months subsequently. On the other hand, these cases frequently relapse, and the relapses may be very severe. I look upon this type as representing the modified penalty we now pay for the previous insanitation; it depends greatly on blood poisoning by the gases emanating from the bottom of a very foul harbour, which simply correspond to sewer gases.

Etiology: Predisposing Causes.

1. *Season.*—At Malta this disease commences almost invariably in the spring, April and May being the worst months. Of the cases under consideration, 17 commenced in April, 14

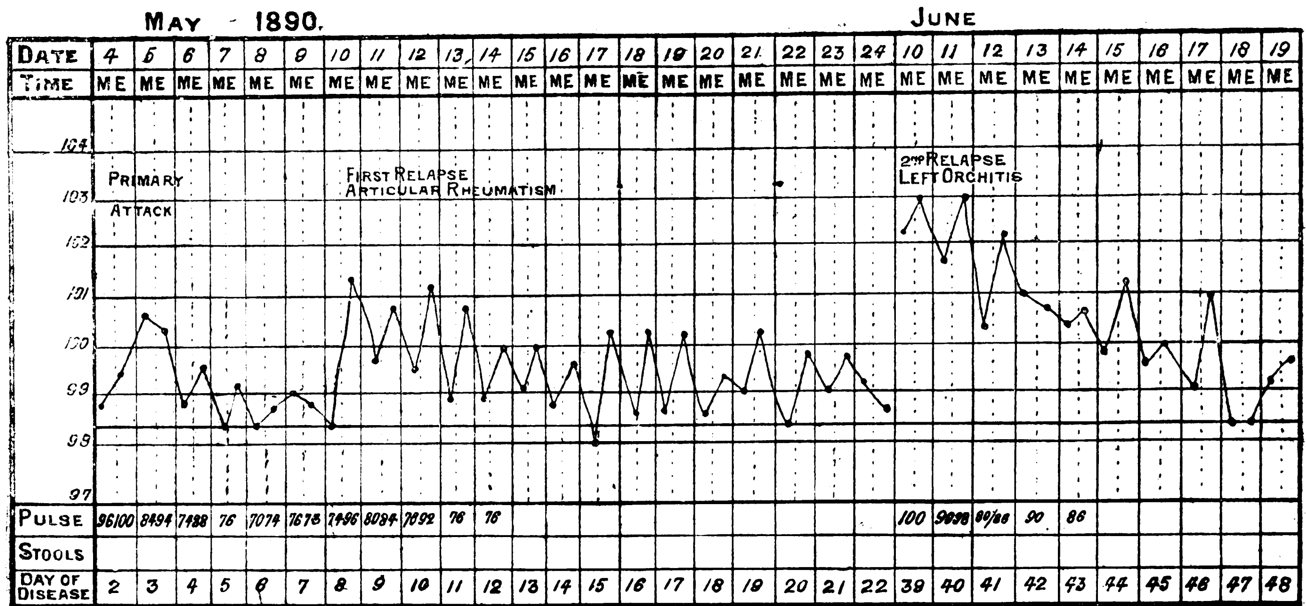

Chart 3.—Hybrid type.

in May, and 5 in June. The spring is very treacherous; there are cold winds, and it is cold in the shade, with, frequently, an almost tropical sun. A cold wet season increases the number of cases of tonsillitis and rheumatism.

2. *Exposure to Sun.*—In three or four cases the disease directly followed exposure to the sun on hot days, and in several cases the attack appeared to be hastened by this cause.

3. *Injuries.*—In 4 cases small bruises and sprains determined an attack, the injured part becoming swollen and inflamed with general fever. The injury was rapidly recovered from, but the case drifted on into this hybrid fever.

4. *Age.*—No age appears to be peculiarly liable.

EXCITING CAUSES.

1. *Malarial.*—This poison plays an important part in the causation of this disease, giving some cases of pure remittent, and more rarely of intermittent, type. True ague is not often seen. Patients suffering from this fever very rarely improve when taken from one part of the Mediterranean to another; cases occur similar to those at Malta all over the station—Gibraltar, Cyprus, and the coast of Syria, where malarial fevers have been long known to exist, may be especially mentioned.

2. *Pythogenic.*—To name the insanitary condition of Malta is "to tell an oft-told tale." As previously remarked, the improved drainage and water supply have brought their usual good effects, and a less virulent disease now prevails. This fever is doubtless largely filth-produced, the poison concentrating its forces on the lymphoid structures of the alimentary canal (tonsils and Peyer's patches) as in pure typhoid, so giving rise to typhoid symptoms, and accounting for the resemblance between typhoid and this fever. But the disease must not, for this reason, be assumed to be typhoid; tubercle and pure remittent fever attack the same structures, these lymphoid spaces being battle grounds common to several diseases where germs and phagocytes combat. The nature of the complications also prove how much is due to this cause—namely, (1) rheumatism, (2) sore throat (follicular and suppurative tonsillitis), and the adynamic character of the disease—the irregular temperatures and profuse sweats.

DURATION OF DISEASE.

The cases lasted from one week in one case only to six or seven months. Of the 42 cases under notice, 8 only made perfect recoveries, and were from one to six weeks under treatment; 3 other cases remain in the ship, and are subject to frequent attacks of rheumatism. Of the remainder, 1 is dead, and the others have been invalided after periods of sickness varying from three to six months. No eruption was noted in any case.

NOTES ON SYMPTOMS AND COMPLICATIONS.

Orchitis was noted in 7 cases—2 double, 4 left, and 1 right. These cases generally have the appearance of acute hydrocele; there is intense neuralgic pain; the testis is mostly, and the epididymis slightly involved; they occur at any period of the disease.

Rheumatism occurred in nearly all cases at some period of the attack. Many of those who return to duty suffer from this as a sequela for months subsequently. Periosteal enlargements are rare.

Pneumonia was observed in 3 cases, the signs rapidly passing away in 2.

One death occurred among the 42 cases, about 2¼ per cent. The patient had marked enteric symptoms, and died from secondary pneumonia.

INVALIDINGS.

In my opinion, every man who has been six weeks sick and is not recovering should be at once invalided, as only change of climate can cure him. Patients who are sent home quickly recover quickly; those who linger on at the station drop into a very anæmic and despondent condition, and are proportionately longer convalescing after their return home; so that early invaliding is good both for the patients and for the service.

Diagnosis.—The majority of cases point strongly to a malarial origin. There is (1) headache, backache, cold chills with high temperature, followed by profuse sweats; (2) an acute attack, lasting seven to ten days, morning remissions, occurrence of relapses, increasing debility, and pernicious anæmia; (3) absence of albumen in the urine; and (4) low rate of mortality. It differs from true remittent in (1) absence of splenic and hepatic enlargements; (2) quinine is nearly powerless to cure it; and (3) the character of the complications—rheumatism, orchitis, and sore throat.

The differential diagnosis from typhoid must be found in the following points: (1) Invasion more sudden; (2) temperature generally different; (3) eruption absent, though not always so; (4) enteric symptoms usually very fleeting, and often seen with so low a temperature as to be incompatible with typhoid; (5) tongue quite different; (6) disease continues much longer than typhoid; and lastly (7) relapses commence differently.

Prophylaxis.—(1) Improved sanitation; (2) to keep the ships away from Malta as much as possible in the spring;

(3) to ensure the men wearing straw hats as much as possible in the sun.

Treatment.—Conducted on three principles: (A) To destroy malarial poison, antiperiodics—(1) quinine; has direct influence on malaria; (2) sodæ salicyl.; antiseptic, antipyretic, and useful in rheumatism; (3) liq. arsenicalis; antiperiodic. (B) Purification of blood by oxidising the organic poisons—(1) chlorine; gas held in solution and obtained by action of hydrochloric acid on chlorate of potassium; (2) potassium iodide; (3) saline purgatives, to remedy constipation and free the intestines of ptomaines, etc. (C) Tonic and alterative—(1) quinine, mineral acids, and strychnine; (2) arsenic, strychnine, and quassia; (3) iron and strychnine.

The disease really defies all kinds of treatment. The plan which has offered some signs of success is to give large doses of quinine (20 to 30 grains) during the remission, and repeat it in decreasing doses; arsenic and iodide of potassium, in doses of 10 grains three or four times daily, should be commenced early. I had great hopes that the chlorine water would have proved useful, and gave it liberally in several cases, but it was a hopeless failure. The one efficient remedy is change of climate.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

LATERAL DEVIATION OF THE TONGUE.

Pointing of the tongue to the right or left is so generally recognised as a symptom in paralytic seizures, that I thought it might be worth while to note down all cases of illness attended during a certain period of time where deviation from the central line was observed. Of notes of 300 cases of illness taken during that time, I find that the percentage of deviations in two quite different sets of patients was identical, 40 instances being observed, or about 13 per cent. of the whole. In 25 of these the tongue pointed to the right, in 15 to the left, for the most part to a marked degree. In eight instances the patients had had, or were subject to, epileptic seizures. Four cases were chronic alcoholics. I could not trace any connection between the deviation of the tongue and the use of either hand.

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TREATMENT OF SOME FORMS OF CORNEAL OPACITIES BY RUBBING.

The methods of treating corneal opacities are numerous, all having the same aim, that is, of mechanically removing or thinning the opaque cornea. None of these methods, however, can be regarded as satisfactory, and if any improvement be effected by their use, it is usually very slow in coming, and a patient with an otherwise sound eye has difficulty in getting good vision owing to a small blot in the way.

On reading Costomiris's[1] attempt to revive the treatment of affections of the cornea, particularly opacities, by licking, it occurred to me that as few could be induced to undertake such a task, an artificial tongue in the shape of an ordinary india-rubber pencil eraser, might serve the same purpose. I accordingly adopted the following method.

Having first anæsthetised the eye with cocaine, I gently rubbed the opaque portion of the cornea with the rounded end of a rubber eraser for about half a minute or less. No pressure was used; the weight of the rubber itself gave sufficient pressure for the purpose. This "rubbing" was repeated every second day for a considerable period with satisfactory results, as will be seen below.

The first case in which the treatment was tried was that of M. McK., aged 24. Has had central nebulæ in both eyes "for years." March 11th, r. v. = $\frac{3}{36}$, l. v. = $\frac{6}{18}$ partly. Both eyes subjected to the treatment. March 18th, r. v. = $\frac{6}{36}$, l. v. = $\frac{6}{18}$. March 25th, r. v. = $\frac{6}{24}$, l. v. = $\frac{6}{12}$ partly. April 1st, r. v. = $\frac{6}{18}$, l. v. = $\frac{6}{9}$ barely. June 2nd. r. v. = $\frac{6}{18}$, l. v. = $\frac{6}{9}$. Treatment was then stopped. On seeing the patient six weeks after she still retained the same improved vision.

[1] Société Française d'Ophtalmologie. *Compte Rendu.* Sixième Session.

The next case was that of M. R., aged 10. Has a large nebula in right eye and a central nebula in the left eye. Treatment commenced on March 24th, r. v. = fingers at 7 feet, l. v. = $\frac{6}{24}$. April 3rd, r. v. = fingers at 7 feet, l. v. = $\frac{6}{24}$. April 6th, r. v. = fingers at 7 feet, l. v. = $\frac{6}{18}$ partly. April 25th, r. v. = $\frac{6}{60}$ dimly, l. v. = $\frac{6}{12}$ barely. May 10th, r. v. = $\frac{6}{60}$, l. v. = $\frac{6}{12}$. Treatment then ceased. Neither of the two patients attended regularly. A third made similar improvement. A fourth showed no improvement, but this was subsequently found to be due to a diseased fundus.

I would recommend this method of treatment as suitable for cases in which small central nebulæ interfere with vision. It might, however, be tried in cases where larger portions of the cornea are affected, but great improvement in vision cannot be expected in such cases. The opaque spot should be gently stroked or rubbed with the least pressure possible. Vigorous rubbing will only irritate the eye unnecessarily. A drop of a weak solution of atropine might with advantage be instilled into the eye after each application of the rubber.

It might perhaps appear premature on my part to bring to notice the results of a few cases only, but as suitable material has been slow in coming, I thought that possibly those who have large clinics might like to try this novel treatment.

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CASE OF SUDDEN AND UNEXPECTED DELIVERY IN THE ERECT POSTURE.

There being only a limited number of cases of sudden and unexpected delivery in the erect posture on record the following case is perhaps worthy of mention:

S. D., aged 21, who had previously, after a lingering labour, given birth to one child, was recently visiting a friend, when she felt a sensation of giddiness. She therefore left and started on her way home. Having walked fifty yards a sudden pain in the abdomen was experienced; the pain was so acute that she retired to a neighbouring outhouse. She had no sooner arrived there than she gave birth to a full term male child. The child fell head foremost on to the stone floor. The fall was broken by the cord, the cord was ruptured, and no hæmorrhage occurred; the child sustained no injury, not even a bruise being apparent, and is still alive (two months after the occurrence). The mother walked back to her friend's house, and has made a good recovery.

There had been a miscalculation of two months in this case of the probable date of parturition, and the mother had no idea of the cause of the pain until the child fell from her.

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POISONING BY BELLADONNA PLASTER.

Mrs. W., aged 23 years, was confined four months ago. The baby was nursed till three months old, when it was thought advisable to "dry the breasts." The patient applied belladonna plasters to the breasts, and she was told not to interfere with them till they fell off of themselves. Being on a visit to friends and not feeling well, she was brought to see me on February 28th. She was very pale and anæmic, complaining of frontal headache, dimness and haziness of sight, dryness of mouth and throat, thirst, and loss of appetite. She remarked that her breasts were sore, and that there was a disagreeable smell proceeding from them. On examination I found that she had two filthy sodden plasters on her breasts. When these were removed the skin presented a well-marked pustular eczematous condition over the area covered by the plasters, from which a very offensive odour of decomposing matter emanated. Over the arms and forearms on both extensor and flexor surfaces and over the front of the knee-joints, the lower fifth of the thighs, and the upper fifth of the legs there was a rash of a distinctly urticarial type, attended with considerable itching. The pupils were widely dilated. The breasts were ordered to be bathed with hot water, and then smeared over with vaseline. I saw the patient on March 3rd, and found all the symptoms quietly subsiding.

Amongst the frequenters of out-patient departments it is no unusual thing to see these offensive plasters on the breasts. Far more efficacious and cleanly applications are the liniment or the extract of belladonna rubbed up with