PROTRACTED SIMPLE CONTINUED FEVER.

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I PROPOSE in this paper to examine into the history and clinical features of fevers of long duration that are not typhoid fever, and to ascertain in how far these continued fevers form a type of their own. Let me first describe, by way of introduction to the subject, a couple of cases of most unusual length: one, seen some years ago from the beginning to the end of the disease, and often since; the other, a more recent one, investigated repeatedly during its course.

CASE I.—A number of years ago a young girl was brought to me with very poor digestion and great irritability of the stomach. By strict diet, the use of effervescing mixtures and laxatives, the disorder yielded in ten days, and free bilious discharges, for the most part dark-colored, took place at its end. Shortly afterward an inexplicable fever arose that lasted for three months. The fever was never very high; it did not, I think, ever exceed 103° F.; it was not ushered in by a chill, nor did chills happen during its continuance. There were, as in any fever, a morning remission and an evening exacerbation, but never to a marked degree; the fever was for weeks remarkably regular, only at times and at no stated periods, showing irregularities in its course, and its subsidence and disappearance were as gradual and unmarked by violent changes as its onset. Late in the disease some sweating happened.

Beyond the extraordinary fever there was nothing to note; there was no cerebral symptom, save occasional headache; neither nausea nor vomiting; no epistaxis; no diarrhœa, the bowels, indeed, were rather sluggish; no abnormal lung or heart condition; no albumin in the high-colored fever-urine; no eruption of any kind, not a single, even doubtful, rosé-spot. A slight enlargement of the spleen was made out, but it was not decided. Indeed, there was nothing whatever amiss except the apparently interminable fever. The convalescence did not prove a protracted one; emaciation was obvious, yet, considering the length of the fever, not extreme; there was no falling out of the hair. I regret that I have no record of the state of the nails, and am not certain whether the ridges which Longstreth and I have so constantly found after typhoid fever, were present. Neither before, at the time, nor

since, has there been the least evidence of hysteria. Indeed, the girl of eleven years is now a young lady in the twenties, of unusual composure and vigor, though showing symptoms of gout, which she has inherited from her father. There was some talk of her having had malaria before the fever outbreak, but this was mere surmise, and the long fever was totally uninfluenced by quinine, as, in truth, it was by any other remedy. It seemed to leave when it had determined to leave.

Case II.—A girl, fourteen years of age, was seen by me with Dr. Spivak in January, 1894, when she had been in bed with fever for over a month. When she came under his care she had been ill for two weeks, without abdominal symptoms, except a slight gastric disorder at the onset, but with decided fever; indeed, the temperature was 105° F., at or near which it stayed for three weeks longer. It then gradually declined, reaching 101° in the eleventh week, the fever not ceasing until at the end of the twelfth week, and disappearing gradually. At no time, save for a few days, was there more than one degree difference between the morning and evening temperatures. In these few days the temperature several times fell to 99°. Sometimes the fever was higher in the morning than in the evening. There were no catarrhal symptoms or bone-pains; dryness in the throat was complained of, yet nothing but injection was to be seen; the tongue was dry. Neither meteorism, nor diarrhœa, nor abdominal rose-spots, nor any other kind of eruption existed. The urine was simply a fever-urine. The patient took food well, and even enjoyed it. The spleen did not extend beyond the border of the ribs. There was restlessness, but no headache. The pulse was rapid, always compressible; there was no cardiac disorder. In the eighth week some bronchial symptoms were found, and at the middle of the right lung anteriorly a spot was detected over which the percussion-resonance was impaired, and the breathing, which had been about twenty, became more hurried, but all this passed away in two weeks, leaving still the steady continued fever.

Quinine in small doses, quinine in large doses, produced no effect, although much buzzing in the ears was complained of. Salol, as well as the ordinary coal-tar antipyretics, had but a temporary influence on the fever, as did cold sponging, and getting the patient out of bed. There appeared to be more effect from salol than from anything, except it was from the iodide of potassium. After a few days of this treatment the fever stopped. But it is a question whether it had not worn itself out. The convalescence was not protracted.

I saw the girl about three months after her recovery. She was in excellent health, with ruddy cheeks. All traces of the emaciation, which had never been very great, had gone, and she had not lost her hair.

When we take these two cases together we find an apparently causeless fever of extraordinary duration, and presenting, like idiopathic fevers, no definite lesions. The cases are alike in the continu-

ance of the fever, in the very gradual yielding, in the absence of marked remissions or of relapses; they are alike in some gastric symptoms which happened in the early part of the case, and then subsided, while the fever went on unchecked; they are alike, too, in the absence of any cerebral symptoms, except it be restlessness and occasional headache, and in the very slight, indeed doubtful, enlargement of the spleen.

I record these two cases as examples of the most protracted ones of simple continued fever I have encountered, but there are cases, much more numerous, in which the disease lasts from two to three weeks, with exactly the symptoms described, and, though much shorter than these long-drawn out instances, considerably longer than the simple continued fever ordinarily met with of about a week's duration. I have seen cases of this which it would be tedious to describe in detail, but I may mention that among the more pronounced were some among brokers and speculators in times of commercial panic, and that delirium in them was not an unusual symptom.

Let us contrast this fever-type, especially in instances of extraordinary length, with other fevers of protracted duration. To take, first, typhoid fever. Every instance of long-continued idiopathic fever is presumably typhoid fever. Yet typhoid fever does not last three months, unless kept up by complications, or unless repeated relapses happen. I have known a case prolonged for three months, in which temperatures of 105° F. repeatedly existed; but the enteric symptoms were throughout marked, and at the autopsy, besides the characteristic lesions in the ileum, an extensive colitis was found with thickening, and, here and there, sloughing of the mucous membrane of the large intestine, fully explaining the long fever and the frequent intestinal discharges. I have met with another instance of long-lasting typhoid fever with persistent high temperature, and similar intestinal affection, though in this case recovery took place. In both these cases there was no evidence of relapse, and the enteric signs were pronounced, making them totaly unlike the ones we have here detailed, and the eruption was very marked. This, in a very long case of typhoid fever, Murchison found to appear almost daily up to the sixtieth day.

Taking ordinary cases, the characteristic temperature-tracing, the crops of eruption, the nervous symptoms, the intestinal features, are

wholly unlike what we are here examining, and the definite cessation of the fever in the fourth week is one of the most certain phenomena. Nor is it necessary to do more than mention how great the dissimilarity to remittent fever, even if of more than average length, and to relapsing fever. Should a doubtful instance of the kind arise, the microscopical examination of the blood for the characteristic micro-organisms would speedily clear up the doubt. With reference to so-called typho-malarial fever, the history of the case and the enteric symptoms and enteric lesions are of great significance. More difficult will it be to distinguish the continued fever that may follow a remittent fever. But the different onset of the malady, the chills or chilly sensations at the beginning, the disturbance of the digestive organs, the irregularity of the temperature, a sign to which Gervais Robinson[1] has particularly called attention, are specially significant. Then, too, the malarial organisms are of the greatest aid. Councilman[2] found them in the blood in many examinations he made of this continued malarial fever. The organisms were rather large crescentic forms, free in the blood and not in the corpuscles.

I think the greatest resemblance to very long idiopathic simple continued fevers is furnished by the protracted fever we sometimes meet with during epidemics of influenza. Here the catarrhal symptoms may long have passed away, though the fever strangely persists for weeks, a coated tongue, anorexia, slight irritation in the lungs, a few scattered râles, and a point of less perfect expansion being, perhaps, all that is found. I saw, among many others, during the epidemic of influenza a few years since, a case of this kind with Dr. Darrach, who kindly sent me the temperature-record. The boy was ill with fever from June 5th to July 19th, and the fever, never very high, gradually left, but even after it had gone the temperature was occasionally above 98.4°. In the beginning the signs of influenza were marked and a few bronchial râles were heard. A brother, eight years of age, was similarly affected. The temperature was, with the exception of some morning temperatures, above normal from January 19th to March 5th, and even then the evening temperature registered at times 99.5°; the highest temperature attained was 103°. The epi-

[1] Transactions of the Association of American Physicians, 1888, vol. iii.
[2] Ibid., 1887, vol. ii. p. 229.

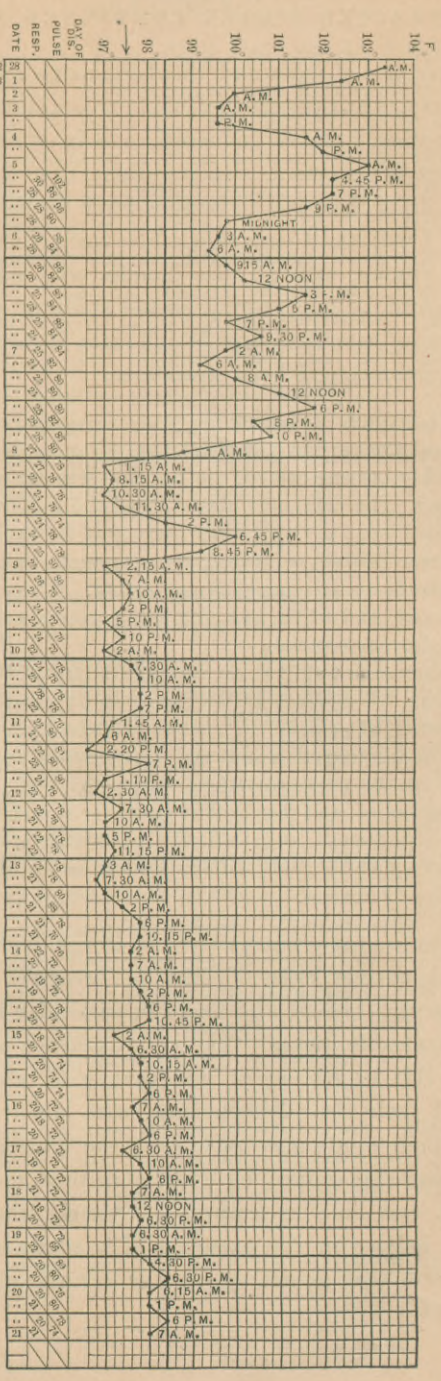
demic character of the cases and the bone-pains and other marked influenza-symptoms at the onset tell their true nature.

There is another form of influenza, one in which the catarrhal symptoms affect the stomach and intestines, that it may be difficult to distinguish from the cases of simple fever which are not of influenza-origin. I will cite a case seen a few years since, when epidemic influenza was raging, with Dr. De Young, who has given me the temperature-record he kept, which, as the study of pure instances of the enteric form of catarrhal fever or influenza is rare, especially with reference to temperature, I here reproduce :

CASE III.—The patient was a woman, sixty years of age. She was in perfect health when she was seized with shiverings, fever, bone-pains, and nausea. The tongue quickly became coated, the appetite was entirely destroyed, and vomiting occurred. The urine was high-colored and free from albumin. The bowels were constipated or irregular; there was no jaundice. No chest-symptoms whatever existed, or, indeed, were present at any part of the case, though the respiration was somewhat accelerated. There were great variations in temperature, and while, as a rule, the morning temperature was lowest, the reverse also was noticed.

The temperature sank to 97° F. on the eighth day of the disease, rose to 100° in the evening, fell again to 97° on the ninth day, and from that time on remained subnormal, often below 97°, to the nineteenth day, when it attained the normal. The prolonged subnormal temperature in the slow convalescence, as well as the great variations during the fever, the sudden onset with marked bone-pains, and the decided gastric symptoms, are very characteristic features of influenza, and, with the knowledge of the prevalence of an epidemic, distinguish its gastro-enteric form from the cases of simple continued fever under discussion.

I pass next to groups of cases which, whatever their origin, must be here considered, namely, cases of continued fever not typhoid, having a duration of several weeks, and found in particular localities, or due to special recognizable causes. The very existence of such cases has been denied. But let me say at once that, with full appreciation of the difficulty of their clear discernment; with the frankest acknowledgment that their study may baffle even the most sagacious physician; with knowledge gained by experience that anomalous typhoid fever will lurk and hide its features completely where it is unsuspected—I still believe in the existence of a continued fever of considerable duration that is not typhoid or a malarial fever that has become continuous.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But the most common form of simple continued fever, not merely ephemeral, but lasting at times for some weeks, is the fever of the tropics, especially as met with in the West Indies and parts of South America and of India. It is the ardent fever of the older writers; it is, in its more violent form, the inflammatory fever Copland describes as a variety of ardent fever. It has a duration of two weeks, does not occur in epidemics, and, notwithstanding the violent symptoms of intense headache, delirium, flushed face, and full pulse, ends generally in recovery. Death, however, may take place between the sixth and ninth days by coma. With this kind of fever, though differing in intensity, I class the continued thermic fever of Guitéras,[1] observed especially at Key West, and in which wakefulness, great nervous excitement, disordered muscular functions, and unimpaired appetite were common, but in which no eruption nor any of the special symptoms of typhoid fever, nor the characteristic ascending temperature-tracings of the first week were seen. The temperature was often as high on the first day as at any time. In two cases death occurred in the second week with hyperpyrexia. In some of these instances of prolonged fever, autopsies were made by Guitéras[2] and the lesions of typhoid fever were not found.

A variety of this continued fever is the one described by Murchison[3] as "Asthenic Simple Fever," a fever lasting two or three weeks, with rather feeble pulse, constipation, disturbed sleep, and increasing weakness. It often follows great mental or bodily fatigue, and is never fatal.

A continued fever of remarkable type, in which convulsions as well as chest-symptoms may arise, may be due to starvation. I have described such cases as "Starvation-fever."[4] An autopsy in two instances showed a normal condition of the intestinal glands.

There are other forms of simple fever met with in different localities which may here be inquired into, and which are traceable to special causes. The so-called "Malta Fever" or "Rock Fever," or the fever of the Red Sea ports is one, and, according to Milnes,[5]

[1] Therapeutic Gazette, March, 1885. Also, Report of the Sup. Surgeon-General Marine Hospital Service, 1884-85, Washington, 1885, 95-107.

[2] TRANSACTIONS OF THE ASSOCIATION OF AMERICAN PHYSICIANS, 1887, vol. ii. p. 222.

[3] Treatise on Continued Fevers, p. 681.

[4] Transactions of the College of Physicians of Philadelphia, third series, vol. v.

[5] Lancet, June, 1892.

irregularity of temperature may continue for weeks or months, and rheumatism is not an uncommon complication. Another is the atypical Continued Fever described by Cain[1] at Nashville, and existing also in other parts of the United States, bearing no relation to typhoid fever, and thought to be dependent upon a septic agency arising from the soil. Descriptions of the Cyprus Fever[2] leave a doubt on the mind whether it is not a form of relapsing fever; and Baumgarten's[3] interesting paper on "A Simple Continued Fever" at St. Louis has not dispelled, chiefly owing to the character of the autopsies in the fatal cases, the impression that it was a peculiar form of typhoid fever.

In the diagnosis of these fevers of continued type we have to take great care not only to distinguish them from other idiopathic fevers, but also from prolonged fever that may arise in connection with varied local conditions in which the febrile state, for the time, overshadows the local lesion. To pass the main of these in review: The most likely to be mistaken is the fever of miliary tuberculosis in instances in which the physical signs are not well pronounced. Indeed, the second case reported in this paper was regarded as acute tuberculosis by most of the many physicians that saw it. As a rule, the greater gravity of the constitutional symptoms, the emaciation, the sweats, the dyspnœa, the tendency to cyanosis, the cough, the signs of a diffuse bronchitis, the frequently present delirium, are conclusive. Still more so is the tubercle-bacillus in the sputum, though its absence in acute tuberculosis is, we well know, not positive proof of this malady not being before us; at times, tubercle-bacilli may be found in the blood when not detected in the expectoration.

Fecal accumulations may give rise to an irritative continued fever of weeks' duration. They are associated with heavily coated tongue and foul breath; often, too, there is some tenderness over the large intestine. The bowels are generally very constipated, but the reverse may happen, and then the resemblance, as in a case I saw with Dr. Arthur V. Meigs,[4] is really to typhoid fever rather than to prolonged cases of simple continued fever.

Anæmic fever, such as we sometimes meet with in chlorosis, much

[1] Southern Practitioner, December, 1891.
[2] Sajous's Annual, 1893, vol. i. H. 92.
[3] Transactions of the Association of American Physicians, 1893, vol. viii.
[4] Transactions of the College of Physicians, 1886, vol. viii.

oftener in pernicious anæmia, is another misleading form of fever. The look of the patient, the chemical and microscopical blood-tests, explain the irregular pyrexia, which I have seen, however, last several weeks at a time. Temperatures above 103° are extremely rare. The fever that may attend purpura, especially purpura hemorrhagica, is of the same kind; it may be continuous, but it is not high. By way of exception, hysteria is, at times, attended with continuous fever that is likely to show a distinct afternoon rise of temperature. Hysterical fever has been especially studied by French observers. It must be due to a disturbance of the functions of the heat-centres. Osler[1] reports a case that lasted over four years. We can only recognize hysterical fever by the neurotic history and the attending phenomena. There are nervous disorders in which prolonged fever also happens. It may be met with in chorea. In Goodhart's interesting article on "Innominate Fever,"[2] the case of a boy is mentioned who had protracted, irregular fever, and who had had chorea and possibly tetany, and left the hospital, after a six months' stay, with the fever uninfluenced. In all these fevers of nervous origin the temperature is apt to vary very much.

There are further groups of cases of organic change in which fever more or less continuous is observed; in persons, for instance, with rather rapidly advancing arterio-sclerosis, and in lithæmics. Then, too, we see cases in which there is organic disease, as of the endocardium, or of the lung or pleura, or duodenal catarrh, in which the lesion discernible is but slight, but in which, whether from slow absorption of morbid products, or idiosyncrasy of the patient, continuous fever is encountered. In cases of catarrhal pneumonia, or local plastic pleurisies, I have often known this happen. To this group, I think, belongs the case detailed by Chesman Barker,[3] in which fever lasting twenty-two days arose, without apparent cause, after an attack of pleurisy. In further instances, as in Hale White's[4] analysis of inexplicable pyrexia, albuminuria is found, and the question is raised whether the lesions are not due to the fever rather than the fever to the lesions. Connolly's[5] forty-four cases of continued fever consequent upon immersion in flood-waters, cannot, I believe, be regarded

[1] Practice of Medicine, second edition, p. 1029.
[2] Guy's Hospital Reports, 1888, vol. xxx.
[3] British Medical Journal, July, 29, 1893.
[4] Ibid., December 4, 1886.
[5] Australian Medical Journal, May, 1893.

as idiopathic continued fever, but seem rather to be catarrhal jaundice.

The protracted continued fevers do not happen in epidemics, nor are there relapses. Recurrences may, however, occur in the acute lithæmic fever, if such I may designate it. I have seen a case in the wife of a physician, with nine or ten attacks in six years, no one lasting over a week, but with very high temperatures, and very scanty urine. The point may well be made, as the attacks are short, not long, whether, strictly speaking, acute lithæmic fever ought to be here considered.

These continued fevers of long duration are, like the ordinary short simple continued fevers, almost never fatal; the form observed in the tropics has a less favorable prognosis than the other kinds, though there, too, the proportion of deaths is small. No lesions are found except congestion of internal organs. The spleen is not markedly enlarged. Slight meningeal exudation has been occasionally noted. I know of no accurate blood-examinations. It is a mere matter of surmise, in any of the varieties of the prolonged simple continued fever, what causes the fever. That it is due to a disturbance of the heat-centres seems certain. But what gives rise to this disturbance? Is it one cause, or are there several? Leaving out the hysterical cases and those of nervous origin, it appears to me likely that the fever originates from causes within the body; that either as the result of fatigue or overwork, or from impure water, or some preceding digestive disturbance, as happened early in both the very prolonged instances recorded at the beginning of this paper, leucomaïnes form from vitiated secretion, of a character to disturb the heat-centres. Whether in the continued fever of the tropics heat acts also in this way, or more directly, or through blood-changes produced, is a matter on which we can, with our present knowledge, only speculate. Both here and in all these prolonged continued fevers there is a great field for chemical research, especially in the leucomaïnes of the uric-acid group.

The treatment of the prolonged simple continued fevers is purely symptomatic. Quinine has no effect on them; nor have the ordinary antipyretics more than a temporary influence. Phenacetin and salol do the most good, particularly in cases with headache. They are best given in small doses, a grain or two, frequently repeated, until

their effect is manifest. Better still, where it can be efficiently employed, is the cold-bath treatment, not only to lower temperature, but for its revulsive and alternate influence. I regret that in the extremely long cases first mentioned circumstances prevented it from being thoroughly carried out. Purgatives, unless contraindicated by weakness, always form part of judicious treatment.