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NOTES ON THE EPIDEMIC FEVER OF RUGBY AND ITS NEIGHBOURHOOD, DURING THE AUTUMN OF 1846.

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As cases of fever are still occurring in most parts of the country, it may excuse me in attaching some importance to the present communication, and the attempt made to arrange notes relative to the form, progressive course, and therapeutics of the above-named epidemic. It is intended to prove, that continued fever in a rural district requires a different mode of treatment to that which it has been thought expedient to adopt in fever of the same type, attacking the inhabitants of over populated towns. These observations will generally consist of a series of facts falling within the range of my own practice, but occasionally referring to a different method of practice. The epidemic about to be described will be found to possess certain distinguishing characteristics, which may be attributed to the locality and habits of life operating favourably on patients, when compared with the results of epidemics of crowded cities. I am therefore desirous of putting others in possession of memoranda relating to continued fever in a midland district. We shall thus have an opportunity of drawing a comparison between this and the epidemics that have arisen at the same season, in various parts of the kingdom.

The unhealthy state of Rugby was first brought under our notice by a great number of persons complaining of either diarrhoea, or of common indigenous cholera. These forms of disease prevailed almost universally for about three weeks, and then were succeeded by cases having all the symptoms of gastro-enteritis. Some alarm was created as soon as it was known that two or three members of the same family, in several houses in the principal streets, were ill. In consequence, a sanitary committee was chosen, and the assembling of the school (for it was the vacation,) was postponed.

It may not be amiss to observe in this place, that when the premonitory sickness and diarrhoea were met by judicious treatment, the disease rarely advanced beyond a simple affection of the mucous membranes. The exhibition of doses of Hydrargyrum cum Creta, and saline aperients, or effervescing salines, with a due

regard to the mildest diet, seldom failed to arrest the malady. On the contrary, when the dejections were suppressed by opium and other astringents,—when wine, or brandy, or cordials were taken, with the mistaken idea of comforting the bowels, febrile disorder was more fully developed, and greater mischief ensued.

On the 24th of August, the first public meeting was called, to consider what steps should be taken to prevent the spreading of the epidemic. This subsequently led to the adoption of some very proper sanitary regulations, such as are known to have a tendency to mitigate the complaint, and to check the extension of a malady which had begun to invade all parts of the town. It is worthy of remark, that the poorer inhabitants resident in the worse parts were not the first victims of the epidemic; fever appeared in the families of tradesmen, and among the superior ranks of society. Some cases terminated fatally after an illness of eight or nine days; this, however, was not commonly the progress; such unhappy events were probably to be attributed to causes which we shall take occasion hereafter to discuss.

It is difficult to trace the epidemic to its first cause or remote origin. Some persons had no doubt about its arising from chokeage of the sewers. An eminent engineer, who had been employed to make a survey of the town, with a view to improvements, had no difficulty in arriving at the conclusion that the complaint might be attributed entirely to bad drainage.* This is certainly an easy, but not a very satisfactory way, of accounting for the re-appearance of an epidemic after a long absence. There had been no epidemic fever since 1842. Those who were better acquainted with the history and statistics of medicine, although ready to admit that all facts that throw any light on the subject of malaria are highly important, yet were not satisfied with the preceding explanation. We ought not to leave out of our consideration the powerful influences of meteoric changes. "*Mutationes defectionesque temporum maxime parient morbos.*" At least, it may be "worth while to bear in mind, the possible, if not probable, connection between epidemic disorders, and the outbreak of volcanic agency and electrical phenomena."†

* Mr. Austin's Report on the Improvements of Rugby, fol. 4.
† Dr. Arnold's Letters, p. 375.

Up to the present time we have, I believe, no clear insight into the origin of those periodic scourges which afflict mankind in the shape of epidemics. "The question of the origin of fever in such cases is far from being easily settled to the satisfaction of a philosophical mind.*" Of this much we are certain, that free currents of pure air dilute and dissipate aerial poisons, so as to render them little hurtful, while confined air is the medium in which they linger, and the effluvium of organic decomposition becomes, if not the generator, the conductor of the fomites of infection.

It would be idle to occupy the attention of the reader by minute details, only so far as the febrile movement we are now contemplating, exhibited certain general features which we shall mention. Thus there were several degrees of intensity of fever, somewhat corresponding to synocha, synochus, and typhus; but as each class of cases was identical in its primary and principal lineaments, still for convenience of arrangement, we may consider them one and the same disease, simply acting with greater or less severity on the individuals attacked. Many encountered the first degree, the greater number the second degree, and not a few were affected by the third.

The following outline may serve to give a tolerable conception of the train of symptoms constantly presented, and by which the epidemic was immediately recognized:—The countenance expressed wretchedness of feeling, or stupefaction; coldness diffusing itself through the body very frequently, perhaps every quarter of an hour, was succeeded by heat, headache, frequent pulse, thirst, furred tongue, epigastric and abdominal pain, diarrhoea or occasionally an opposite condition of the bowels, the urine loaded with lithates. In all cases the fever, whether simple or more complex, had, as we may well suppose, many shades of intensity, and many varieties belonging to each division of cases. It is not needful to give formal definitions of the several gradations of fever, as each grade will be best exemplified by the recital of a few instances.

Fever of the first degree, was manifested by such symptoms as above, and had but a comparatively short duration. In some persons the *vis vitæ*, or the right appliances of medicine, were sufficient to prevent the noxious influences going beyond these limits, as the following cases will illustrate:—

Mrs. H., aged 34, after undergoing much anxiety and fatigue from the illness of two of her children, was suddenly attacked with creeping chilliness down the spine, aching in the loins, great thirst, loss of appetite. There was a scanty secretion of urine, which was remarkable, from its being coloured with hæmatisine. Now, although fever ranged no higher than the first degree in our pyrexometer, and only partially confined her to bed, yet it continued for five weeks, with little abatement, by which time her health returned.

Her husband also became affected. He had great irritability of the stomach and bowels, wandering pains in the limbs, white tongue, and an accelerated circulation. He dreaded confinement to his bed, and could not be persuaded to remain quietly at home. Happily his natural courage and pressing engagements as a practical engineer, employed on the railroad in adjusting the telegraphic apparatus, kept him much in the open air. For some days he endured much weakness, headache, and the concomitants of fever of the first degree, but he was perfectly well in a fortnight.

Cases of this grade were occurring in all parts of the town: young and old became afflicted. The febrile impression was not serious, though not soon subdued.

The epidemic in the second degree differed from the first chiefly by its greater intensity. The patient at the early stage had a deep flush on the cheeks, alternating with paleness; dry skin; thirst; thick drab-coloured secretion covered two-thirds of the tongue; the pulse rapid, *i.e.*, from 110 to 130; urine turbid. Uniformly there was a certain amount of cerebral disturbance, indicated by moaning or crying out, with sudden sharp pains. A restlessness and delirium existed in most cases, and led one to suspect meningitis. After the subsidence of the latter symptoms one might observe there was marked pervigilium, which was succeeded by unusual torpor.

Sir H. E., aged 17, complained of headache, shiverings, a total want of appetite, and great lassitude. He had white brown tongue, frequent pulse, and pain in the epigastrium. This attack lasted three weeks, but throughout the whole period his state might be considered free from danger. He possessed a good constitution and could weather the storm. It was far otherwise with those who had serious organic affections at the time of the attack of fever; with such there were few chances of a favourable issue.

A lady, aged 29, of a lymphatic temperament, had been in delicate health for the last two years, from chronic dysentery; but having been on a visit into Devonshire, she returned to her home, at Burbage, convalescent. Fever prevailing in the village, soon after her arrival, she became affected by it, and although the disease attained the second degree only, general cedema was consequent, and she died the fourth week from effusion into the head and chest.

A child, aged 4 years, with disproportionately large articulations of the limbs, always pale and thin, was seized with the same fever. On the 11th day there was strabismus, dilated pupils and convulsive movements of the right extremities. The case ultimately assumed the worst form of hydrocephalus, and terminated fatally on the twenty-second day.

A young man, aged 19, had not long recovered from lumbar abscess. He had slight cough, but he was able to follow his employment as writer in the office of a solicitor. After falling with fever, a discharge was reproduced from the old cicatrix in the loins, and on the seventeenth day from his taking to his bed, he sank. An examination revealed grey tubercles in the lungs, as the remote cause obstructing his cure.

* Dr. Christison, in "Library of Medicine," Art, Fever.

I have not known fever of the second grade carry off the patient, unless, as in the cases just recited, it was complicated with a pre-existent morbid state of body. There might, however, be local disease, not having any bad influences, as it respects the fever.

J. B., aged 20, had disease of the knee-joint for two years, when he was seized with fever, which lasted for three weeks. The one disease had no apparent effect on the other in retarding the cure. He soon afterwards went to his work as a smith, with merely the inconvenience of ankylosis of the joint.

To form a right conception of the third degree of this epidemic in all its circumstances, we ought to suppose the patient to have imbibed a concentrated malaria, subjugating every organ and function to a typhoidal influence.

I will transcribe from my notes the case of a fine young woman, aged 20, who, when I first saw her, had been ill three weeks. Her face had the expression of subdued suffering; sordes on the lips and teeth of a deep blood colour; tongue covered by a thick and dry mucus of the same appearance. A dark shade surrounding the eyes indicated the sunken contents of the orbits; at the inner angles the veins were blue and prominent; the pupils somewhat dilated, and the eyelids half closed; alæ of the nose moved in each respiration; the expirations quite audible; crepitant rhonchus; cough, and a rusty mucous expectoration. It required considerable tact to count the pulse, as it was small, and between 130 and 140, certainly not less than 130. She at one time complained of pain in the chest, at another in her bowels. The hypogastric region was, on pressure, extremely tender. At a more advanced period of the disease this patient became deaf, and took not the least notice of anything passing in her bed-chamber. Unconscious of her danger, wants, or necessities, she was unable to appreciate the concern and attentions of her dearest friends. Thickly folded clothes were placed under her, and attendants administered to her comfort just in the same way as to the most helpless infant. She could only take fluids; as to food of any kind there was a total distaste, as also for every mental and physical enjoyment. The functions of the endermic system, being too feeble to throw off the secretions, the skin became dry. We might now view this patient at the maximum of the epidemic, and altogether a worn-out emaciated being. This case recovered, although it was three months before the enervating effects of the malady disappeared.

The vital powers in persons of advanced age were unable to contend with fever of this type.

Mrs. G. B—, aged 77, fell with fever. In the second week her arms and legs became livid; there was extensive sloughing over the sacrum, and on the fifth week she expired.

From four to six weeks generally elapsed before there was any permanent remission, when the grievous complaints of pain in the back, or limbs, or bowels, were succeeded by a profound sleep, which when undisturbed lasted from six to eighteen hours. There were instances of quiet slumber for three days. The friends of the

patient were inclined to arouse them: they were wrong; this deep sleep ought not to be interrupted, for invariably a favourable event followed. It was critical, and marked that crisis which ended in copious perspiration, grateful sensations, and an abatement of vascular excitation. Indeed, this extraordinary repose and repeated diaphoresis was not uncommonly the precursor of convalescence; the appetite at the same time returning, the physical powers were gradually recruited. Nevertheless, it was from three to four months before the health was perfectly regained.

Another distinguishing feature of the epidemic was,—that in no case which came under my observation could it be said to be ephemeral; in its mildest attacks it long held the sufferer within its grasp. We had also abundant opportunities of remarking how much a pure air, and the habits of country life, give superior powers of endurance under disease. That such circumstances should modify, if not the material of fever, yet that it modifies the effects of fever, is more than conjecture. There can be no doubt that the physical condition of a rural population, living in comparative comfort, would form a striking contrast with the physical condition and powers of endurance of persons living in large towns. Those who have been the subjects of the visitation of an epidemic, under wretchedness and privation, have their vital powers fall at the first onset. Whereas, in our neighbourhood, we have been frequently astonished at the tenacity and conservation of human existence under morbid phenomena so excessively enfeebling. When the subject of fever has been free from previous organic change, and not greatly advanced in life, the epidemic had a tendency to run its course without hazard to life. Cases in my practice have never been fatal, unless the patient at the time of the attack laboured under serious disease, or the disadvantages of old age.

(To be continued.)

ON THE EMPLOYMENT OF THE POWER OF ELASTICITY IN SURGERY.

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(Read at the Annual Meeting of the Bath and Bristol Branch of the Provincial Medical and Surgical Association, held at Bristol, July 22nd, 1847.)

I am anxious to call the attention of the members of the profession to a power which may be advantageously exercised in surgery. Although it has not been entirely overlooked, still its application has been very limited; in some of the cases to which I shall refer, I am not aware that it has ever been employed.

The power I allude to is elasticity. This principle is unceasingly exerted in the human economy. By virtue of its influence the vessels are enabled to accommodate themselves to their varying contents. By its instrumentality those slender encircling bones, the ribs,