FACTS RELATIVE TO EPIDEMIC CHOLERA,
DETAILED FROM PERSONAL OBSERVA-
TION OF THE DISEASE, AT PLYMOUTH,
IN 1832.

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As malignant cholera appears to be making, with steady steps, towards this country, I beg leave to communicate to the Association, in sequence of the paper by Dr. Black, in January of the present year, and that read by Dr. Tunstall at the late Anniversary Meeting, some observations which I had an opportunity of making at Plymouth, in the course of my private practice, and in that of the Public Dispensary, and of the largest of the Cholera Hospitals, of which I held the charge in rotation with some of my professional brethren in that town. I shall confine my present paper to a brief statement of the general facts, having published in the *London Medical Gazette*, in the autumn of 1832, a more particular account of the invasion and progress of the disease, as it appeared at Plymouth.

During the previous winter and spring, many cases of sudden severe vomiting, and purging of bilious, mucous, and serous fluids, with cramps of the legs, came under my notice, and excited alarm as the apparent harbingers of "the cholera;" they were, however, plainly distinguishable from the malignant epidemic disease. The extreme and rapid collapse of the vital powers, the corpse-like aspect of the countenance, the peculiar coldness of the skin, the *serous* character of the ejected matters, the inadequacy of the vomiting and purging to the danger of the case, the excessive abdominal and pulmonary congestion of undecarbonized blood which was revealed on anatomical inspection, sufficiently characterized the epidemic as a novel and mysterious malady.

As to its *remote causes*, we had abundant evidence of the powerful influence, in favouring the outburst of the disease, of unripe and acid, and over-ripe and decayed fruits; of indigestible meats, particularly fish; of debauchery; of cold, and fatigue, and fasting; and of *mental depression* by grief or terror. Of this latter cause a memorable instance occurred, of two estimable and zealous parochial clergymen,—one, being utterly fearless, sought out and sedulously attended all the cases within his reach, from early morning to late at night; the other, who was in weak health, and fearfully apprehensive, secluded himself within his house or high-walled shrubbery. The former passed his ordeal scatheless; the latter got the disease and died asphyxiated in a few hours. Mental confidence, however, in those who attended the sick, was not an infallible preservative:—A surgeon, who was associated with me in the duties of the Cholera Hospital, scoffed at the idea of contagion, and in our rounds he would sit on the sick beds in spite of all remonstrances. On one occasion he was embraced by

a patient, got the disease the same evening, and died in six hours!

Without entering into the question of the *contagious origin* of the disease, in the strict and absolute sense, I would state that many instances convinced me of the *dangerous influence of much intercourse with the sick*. I suffered myself on those occasions when my professional attentions were more than usually intimate—when, in fact, I was obliged to be the nurse as well as the physician.

The powerful morbid influence of certain localities, as of low, ill-ventilated, damp, water-side situations, was also very evident; and of the co-existence of a peculiar electric and barometric state of the atmosphere there was no doubt. My friend Sir William Snow Harris, in a note written to me a few months after the epidemic, informed me, that during the whole time of its prevalence at Plymouth, the barometer was *extraordinarily high*.

Regarding the *treatment*, my experience convinced me that in all cases in the early period, and also in every stage when the case wore the malignant aspect, and the peculiar epidemic characters, *opium* and *astringents* were useless, and *possibly injurious*; but in proportion as the case resembled the ordinary sporadic English cholera, those means were more suitable. We found *stimulants* also, given internally,—such as the oils of cajeput, cinnamon, and cloves, and brandy and salt, utterly useless for relieving the collapse of the vital powers, and I believe that in many cases they did harm; the vaunted salt-water treatment, when used without due limitation, was followed by intestinal hæmorrhage. I believe that the *internal* use of the *hydro-carbons*,—as Barbadoes tar, naphtha, &c., would equally disappoint the practitioner. If we may venture to define the *elements of the malignity of the disease*, from simply surveying the phenomena in the living and the dead, we would say that the extreme congestion of undecarbonized blood in the vital organs, is the grand component, which condition has been observed also in most other epidemic diseases of a malignant form; and this view of the pathology clearly contra-indicates the use of all *hydro-carbons*. The deficiency of carbonic acid in the expired air, is from the interruption of the vital functions of the lungs, not from a want of carbon in the blood, on which theory tar seems to have been recommended.

Observation demonstrated the great importance of those medicines which act on the excretory functions,—such as *mustard* or salt, given as an emetic; *calomel* in large doses, (one scruple,) combined with a large dose (say one drachm,) of the *fixed alkaline carbonates*, (*pure calomel induced serious remote consequences*;) in some cases I preferred, and took myself, with advantage, small doses of the *volatile alkali*, with the black oxyde of mercury, in arrowroot. These means were also administered by the *rectum*, with

marked advantage. In treating sporadic English cholera, for many years previous to the epidemic, I had observed the good effect of a *scruple* dose of *calomel*, combined with half-a-drachm of *magnesia*; and in cases wherein these medicines were used, it was scarcely ever necessary to give laudanum or opium in any form; but in the epidemic cases I preferred the *alkalies* to *magnesia*. We found decided advantage from using Dr. Stevens's *compound saline powder*, of carbonate of soda, muriate of soda, and *chlorate of potass*; the pulse became developed, and the black state was often relieved after its use. *Small bleedings* were, in many cases, of great benefit; many severe "*asphyxiated cases*," in the second and third weeks of the epidemic, were apparently saved by such venesections. *The first of the successful cases at Plymouth was bled*; the previous fatal cases, so far as I knew them to have had any medical care, were treated according to the instructions issued by the Central Board of Health, at Whitehall. *Saline injections into the veins* were tried in many cases; in few did they realize the expectations of the profession. The *acetate of lead*, given by the rectum, as well as by the stomach, did good in the diarrhoea of the protracted cases. I learned from some brother-practitioner, that the *severe thirst* was best relieved by *cold water*, and by *lime-water with milk*. To myself it appears that the thirst might be better assuaged by giving them cold fluids immediately after a copious draught of *warm or hot chicken-broth*, of which *Sydenham* speaks so highly.

There was abundant evidence of the good of various *external means*:—as, *frictions* of the limbs and trunk with dry and warm flannels, sometimes sprinkling on them the flour of mustard or hot salt, embrocations of turpentine, cajeput, ammonia, and other stimulants, and hot linseed and mustard cataplasms on the abdomen. Caution indeed is necessary in the use of friction and stimulants, for in some cases the violent use of them favours subsequent gangrene of the skin. *Swathing* the abdomen and the lower limbs with flannel bandages evidently relieved the cramps. *Heat*, by means of hot air, and various heated solid substances, *rather than heat with moisture*, was clearly beneficial. I would suggest, however, in conformity with a remark by Dr. Black, that in every mode of employing stimulant drugs, and even *heat*, we should observe the principle of the treatment of burns and frost-bitten parts, and *take great care not to induce a sudden or violent change in the vital action* of the body, or any part of it; and as soon as the vital power begins to return, the stimulus should be diminished or withdrawn.

The various statistical returns of the proportion of deaths to the sick cases, in different parts of the United Kingdom, shows a singular equality in the relative mortality, although the same therapeutic means

could not have been universally adopted; yet I venture to assume that other practitioners saw what occurred to my own observation, that in individual cases certain means were so quickly attended by a marked improvement, as fairly to entitle those means to our preference; and also that my experience convinces me that Dr. Black takes too hopeless a view of *asphyxiated cases*.

As to the *prophylaxis* of the disease, I had strong evidence of the salutary effect of observing regular hours for *sleep* and *meals*;—of using a moderately generous diet of animal food and wine, with a smaller proportion than usual of fluids;—of *warm clothing*, particularly flannel around the abdomen, the celebrated "*anti-cholera belt*," and putting on warm silk, or fine worsted, stockings, towards evening;—of a *moral courage*; and of the especial importance of the *due regulation of the functions of the bowels and of the liver*, for which regulation a daily inspection of the stools was absolutely necessary. The slightest constipation, the least degree of *torpor of the liver*, had a manifestly bad effect. In short, whatever maintained the best state of the general health, and gave mental confidence and cheerfulness, was found to be the best preservative. I was much impressed by observing, that on the Sunday night the new cases were nearly a *third more* than those which occurred in any other night of the week! The fact seemed explicable only from the alarming influence of the style of sermons which the awful events suggested, the depressing effect of the thronging of a multitude in a confined space, and possibly also, of the more immoderate suppers, and the later hours which the many laborious classes of the population indulged in on the evening of the day of rest.

I am happy to have it in my power to affix to this very imperfect paper an extract from a letter, written to me in August, 1832, by my late revered and beloved friend, Dr. Abercrombie, of Edinburgh, relative to the cholera:—"Our chief object of attention for many months past, has been this new and fearful epidemic, which has descended upon us like a judgment from the hand of the Almighty. It has been comparatively limited in its extent here, but very fatal in proportion to the number affected; and after seven months experience, I cannot say we have made any progress in our knowledge of the disease or its treatment. We have had more success, I think, in checking its progress, by most extensive measures for feeding the poor and cleansing their houses; and by an extensive quarantine system—removing into houses appropriated for this purpose, persons who had been in immediate connection with the sick. We have no doubt of the disease being communicable by personal contagion in particular cases, though it also evidently spreads in another manner, by an epidemic influence which is altogether beyond our researches."