EPIDEMIC DYSENTERY;

ITS CAUSES, SYMPTOMS, AND TREATMENT.

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DYSENTERY, as it appeared epidemically some time since, in a part of this town, presented some peculiar features both in its symptoms and progress, which merit, I think, to be recorded. The epidemic originated in, and was limited to, a district called Bridge-end-Hill, and assumed, more especially in the winter months, a malignancy which but too frequently baffled the best efforts of the healing art. Bridge-end-Hill, situate as it is in a rather elevated and not unhealthy locality, on the eastern side of Lisburn, is separated from the town by the Lagan river, or canal, and numbers a population of about 160 individuals, the great majority of whom being of the lower orders of society, there occurred in all about thirty cases of the disease, while of this number twelve or thirteen proved fatal.

It was early in the autumn of 1835 that dysentery made its first appearance in the district alluded to, but it was not till the winter three months that it assumed the acme of its malignancy. The epidemic at its outbreak, and during the first two months of its existence, exhibited itself chiefly under the chronic form; afterwards it assumed the acute character presently to be described. In this we discover a manifest discrepancy from the usual march of epidemics, which in their outset and early progress are almost invariably more inveterate, effecting comparatively a greater mortality, but gradually declining down, in most instances, into milder and more remediable forms of disease.

What were the predisponent causes of the disease? Amongst the most efficient, perhaps, I may mention an unusually cold and wet autumn and winter, succeeding to a comparatively mild, though variable summer, with a culpable negligence, in some cases, of the function of fecation.

The coldness of some of the houses in this district, arising either from their superficial structure or want of necessary repairs, together with the dampness incident to floors which are formed in most instances of earth, doubtless materially contributed in debilitating the digestive organs, and in determining an increased quantity of blood to the alimentary canal. Hence the development of diarrhoea, which was so generally prevalent, both previous to the appearance and during the existence of the epidemic, in the locality in question. And as diarrhoea, of longer or shorter duration, was an almost invariable precursor of the dysenteric symp-

toms, it must assuredly be viewed in the light of an important predisposing cause. But since the great bulk, if not all, of those sensible causes were in full operation in other localities contiguous to the infected one, how can the fact of the non-development of dysentery in those localities be explained? Obviously this exemption from infection can only be referred to their enjoyment of a purer and more salubrious atmosphere, with the entire absence of that epidemic constitution which must have prevailed in the diseased locality.

Of the exciting causes, the most potent, I apprehend, were the frequent vicissitudes of temperature, its sudden transition from comparative heat to intense cold, the long rains, alternated with snow and keen frosts. There may be mentioned in addition, the coldness and dampness consequent on an unusual scarcity of fuel, during the autumn and winter season, with an evident deficiency in some instances of clothing. The wearing of wet or damp clothes, and sleeping on cold damp ground, with too little protection intervening, could also be occasionally traced as exciting causes. All or a few of these causes operating on debilitated, relaxed, and predisposed habits, it will not be denied, were fully capable of originating the disease. But as the epidemic attacked some individuals in more comfortable and easy circumstances, and less reckless of those means best suited to the conservation of health, to what cause or combination of causes was its propagation referable? Was it invested with a contagious or infectious influence? Possibly it may have possessed one or other of these properties, but I am in possession of no one unequivocal fact of the disease having been propagated by the operation either of contagion or infection. Even those who were in the closest attendance on the sick, and were, as a matter of course, the most exposed to the infectious emanations, if such there were, never, I believe, in any case caught the disease. Besides, had it possessed either a contagious or an infectious influence to the least extent, the sphere of its ravages, under the circumstances just announced, would hardly have been so contracted. It may be observed that intemperance, or a diminution in the quantity, or deterioration in the quality, either of food or water, could be rarely, if ever, traced as exciting causes.

Tormina and tenesmus, of greater or less intensity, accompanied sometimes with pain, occasionally only with a burning heat in the region of the cæcum, or course of the colon, were generally amongst the first symptoms which betokened an invasion of the disease. These symptoms were either accompanied with, or speedily succeeded by, a sense of coldness, chills, or rigors, alternated with increased heat, acceleration of pulse, and other pyrexial phenomena. The

alternations of the chills with the hot fits were always limited to the first few days succeeding the attack. There was lassitude, too, and a general disinclination to exertion, together with pain in the forehead, and occasionally nausea, and even vomiting and flatulences. As the disease progressed, it generally assumed the remittent type, as evidenced by the morning and evening exacerbations, leaving the intervals comparatively free from suffering. During the access, the tormina and tenesmus were always violent, accompanied generally with pain in the region of the cæcum and course of the large bowel, but occasionally only with soreness or pain in the general abdomen, exciting to frequent, but often abortive, evacuations. The motions, numbering as they did from ten to fifteen in the twenty-four hours, were, from the beginning, generally scanty and offensive, and consisted at this stage either of mucus, streaked with more or less blood, or of shreds of mucus floating in a high-coloured or bloody serum, or matter resembling in appearance coffee grounds, or the washings of flesh. Generally speaking, all traces of feculent matter entirely disappeared from the stools, with the subsidence of the first stage, not afterwards to be observed until the occurrence of a favourable change. It also occasionally happened, that a considerable time elapsed after the establishment of this change, before natural feces obtained the predominance in the stools. The tongue, even from the first appearance of diarrhoea, was, invariably, more or less, deeply coated with a cream-like substance, and furred, the edges and apex appearing either of a red, or a pale-red colour. But in the advanced stage of the more severe cases, these appearances always vanished, and the whole organ became incrustated generally with a dark-brown or black fur. In the first stage the pulse always became a little accelerated, amounting generally, as it did, to about ninety in the minute, it being at the same time rather full. It soon, however, became a little quicker and weaker, and towards the fatal termination it usually numbered about 110 or 115, being weak, tremulous, and thready. The skin in the early stage was always hot, frequently burning and dry. During the accesses the respiration usually rose to about thirty in the minute, generally regaining, however, in the intervals, its normal regularity. The urine was, in all stages, invariably high-coloured, occasionally almost red, but all micturated freely, though rather frequently. General perspiration, of uncommon profuseness, very commonly set in about the second or third week of the existence of the disease, producing marked debility. During the persistence of this symptom, the wonted intensity of the more prominent of the dysenteric phenomena usually subsided. Nor did any of those recover who

perspired either long or excessively, although this symptom always gave way some days before dissolution. After its subsidence the whole surface generally became cold and clammy, evolving at the same time a highly disagreeable odour. In the last stage the dejections became generally fewer, and were either dark or muco-puriform, or consisted of dark, coagulated blood, emitting a highly fetid smell. The thirst, which, during the earlier stages, had been considerable, frequently intense, especially during the sweating stage, was now nearly absent. Thus, much emaciated and weak, the patients usually succumbed about the fourth or fifth week of the disease. A favourable issue was indicated when the stools became less frequent and somewhat feculent, and were voided without pain or straining, succeeded by the cleaning of the tongue, the return of the appetite, easy nights, with the restoration of the natural moisture and suppleness of the skin. But it is right to state, that few of those in whom the disease assumed the acute character, and persisted for any length of time, ever recovered. The chronic form of the complaint presented little worthy of remark, further than that, in such cases, the convalescence was generally very protracted, a few, after having borne up for two or even three months, being ultimately carried off by colliquative diarrhoea.

The morbid appearances of the only case where a post-mortem examination could be obtained, are detailed under the case which is appended to these observations.

In the treatment of the epidemic, on account of its asthenic nature, general blood-letting very rarely formed an item in the catalogue of remedies that were prescribed. Much more confidence was placed in local depletion, which was generally resorted to. This was accomplished by means of leeches to the most pained part or parts of the abdomen, proportioning their number to the urgency of the symptoms and the strength of the patient. The leeching was invariably followed up either by fomentations, or a succession of warm poultices. It may be stated that calomel, in what is called full doses, either in combination with, or followed up by, opium, proved invariably prejudicial. Purgatives of a mild kind, such as *ol. ricini*, or *inf. sennæ comp.*, either alone, or in combination with *laudanum*, were always followed, for a longer or shorter time, by a mitigation of the more harassing symptoms. Opiates in combination with camphor, and, in the early stage, with *ipecacuanha*, were productive of the greatest benefit. Of the astringents I generally preferred the compound infusion of catechu in conjunction with the tr. of kino, and in the first stage with the vin. *ipecac.* Enemata of small quantities of starch, to which some tr. *opii* was always added, rarely failed in procuring an alleviation of the frequently harassing

tenesmus. From the soothing nature of these injections on the irritated and irritable, and occasionally ulcerated rectum, the motions would frequently be retained for a period of six or seven hours. Two or more, according to circumstances, were generally thrown up in the course of the day. External derivation, which was generally confined to the abdomen, was not neglected. Where the pain was violent and persistent, blisters frequently succeeded in removing it after other means had failed. When the pain was more diffuse or general, and of shorter standing, sinapisms, or the turpentine epithem proved equally efficacious. To complete the recovery, tonics and bitters were generally required.

In illustration of these remarks I shall content myself by relating merely one case.

Case.—R. Futton, aged 30, a lighterman, of rather temperate habits, and enjoying previously good health. I first saw him on February 1st, and obtained from himself the following history of his illness. About ten days since he became the subject of diarrhoea. Subsequently to the setting in of this affection, his appetite declined, and there was present some thirst. A few days ago the motions, which previously had been copious, became scanty, accompanied during their passage with considerable pain and straining. About the same time there appeared chills, succeeded by hot fits, with rather disturbed nights. His present state is as follows:—Frequent inclination to evacuate the bowels, but the attempts, which are accompanied with considerable pain and straining, are frequently abortive. Complains of soreness, with a burning heat in the abdomen, the soreness amounting to pain on pressure. The alternations of chills with the hot fits still persist. Skin rather hot and dry; tongue coated with a white substance, the apex and edges being rather red; anorexia; some thirst; frontal headache; pulse 90, not full, compressible; urine high-coloured, but depositing, on standing, no sediment. Attributes his illness to cold and heat received in his employment. R *Ol. Ricini* ʒv; *Tr. Opii* gtt. xxv; *Tr. Rhei* ʒj; *Aq. Cinnam.* ʒj. M. Statim sumendus. Habeat *Mistur. Cret.*, and *Comp. coch.* ij post singul. dejection. Decoct. hordei pro potu.

2nd. The griping pains and tenesmus have been much mitigated since the operation of the oil, which procured five rather dark-coloured and offensive motions. Thirst increased, and the nights are restless. *Mistur. contin.*

3. Nine motions since yesterday, presenting the appearance of coffee-grounds. Tenesmus harassing, and he micturates frequently, but without any pain. The chills have not recurred since yesterday. Skin burning and dry; pulse 96, soft. R *Inf. Catech. Co.* ʒviij ter in dies. R *Gum. Opii*,

Pulv. Ipecac., aa. grs. vj; *Camphoræ* ʒj; *Ol. Cinnam.* gtt. v. M. ft. mass. pil. dividend. in viij equales. Duo tertiis horis. Foot-bath, and the abdomen to be fomented with warm water.

4. All the symptoms are much mitigated; no motion during the night; skin more moist and natural. Experiences only a little uneasiness in the abdomen, and he has had some relish for breakfast. *Med. contin.*

9. From the date of the last report, his amendment was so rapid that, contrary to my express directions, he considered himself capable of rejoining his employment on the 7th. During this day he was engaged in superintending the discharge of a cargo of coals from a lighter, the weather being very cold and moist. The consequence of this imprudence was the re-establishment of all the dysenteric symptoms in an aggravated degree. The motions are now frequent and sparing, and passed with great pain and a sense of smarting. They consist of shreds of mucus floating in a chocolate-coloured serum, and are highly offensive. There is considerable tenderness in, with some tumefaction of, the epigastric region, and occasionally the right rectus abdominis muscle is spasmodically contracted. Skin hot; features pale and sharp; headache; tongue deeply coated and furred; deficient appetite, with irritability of stomach; pulse about 96, rather weak; thirst intense; nights sleepless. *Catplas. sinapis. epigastric. regioni.* *Pil. et mistur. ut antea sumat.*

10. Epigastric tenderness, and spasmodic contractions of the rectus abdominis muscle, have disappeared. Eight motions during the last twenty-four hours, with some mitigation of the tenesmus; irritability of stomach gone. The surface is bedewed with a general and rather copious perspiration. The tongue now presents the following appearance:—in its centre, from the apex to the root, runs a black stripe, about three lines broad; exterior to this the coating is dark brown, while towards the circumference it is whitish. Pulse 100, weak, every fourth beat being rather strong. Nights are easier, though still a little disturbed; there is a morning and evening exacerbation. *Omitt. ipecac. ex pilul.* *Add. Tr. Kino* ʒi, singul. dos. *misturæ.*

11. Pain, which is aggravated by pressure in the track of the transverse colon. Ten motions since yesterday, which are rather largely tinged with blood. In consultation with Dr. Thompson, it was agreed that eighteen leeches should be applied to the most pained part of the abdomen. *Amyl.* ʒij, *add. Tr. Opii* gt. xxx; ft. enema, injicend. mane nocteque.

12. Pain relieved by the leeching, but he complains of a deep-seated severe pain in the region of the cæcum. Perspiration profuse; thirst intolerable; pulse 99. Other symptoms as before. *Applicatur hirud. xij*

regioni cæci; a large poultice to the leech-bites. Med. contin.

13. Pain in cæcal region though mitigated still persists. Tongue universally covered with a deep black incrustation. The motions are very frequent during the accesses. Considerable tenesmus and debility. *Emplastr. Lyttæ cæci regioni.*

15. Rather easier; tongue cleaning towards the tip; perspiration much less profuse. Twelve more leeches were yesterday applied to the right iliac region. He would not permit the blister to be applied.

17. Much the same as at last report, but rather weaker. Pulse 106, small; thirst less.

18. Is a little excited, and wanders; nine muco-puriform stools within the last sixteen hours.

20. Dorsal decubitus; complains of little pain or uneasiness in the abdomen, unless subjected to pressure, when he feels pained in the cæcum and transverse colon. The stools, which to-day are rather less frequent, consist of shreds of mucus floating in a bloody serum, and are highly fetid. There is much general debility; pulse 108, tremulous, and thready; some thirst occasionally; skin cold and clammy since the cessation of the sweating; intellects quite collected. Each injection is generally retained for about four hours, when it is voided with comparatively but little pain and straining. *Habeat Vini Rubri ʒj tertius horis.*

23. The motions consist entirely of dark, coagulated blood, and on account of general prostration, are passed in bed. Pulse 110, scarcely to be counted; cheeks rather flushed; feels on the whole easy. *Auget dosis Vini ʒij.*

He died on the 25th quite exhausted.

Autopsy Twenty-six Hours after Death.—In addition to Dr. Thompson, there were present Mr. Wethered, and my brother Mr. Robert Kelso. The cavity of the abdomen contained about half a pint of high-coloured serum, but the peritoneum appeared quite healthy. On slitting open the large intestines, the mucous membrane of the rectum was found studded with numerous circular ulcerations, varying in size from three to six lines in diameter, implicating merely the lining tunic. In the sigmoid flexure of the colon, the ulcerations became both broader and considerably deeper. Here they were collected into clusters, a few only being scattered here and there around, and varied in diameter from four to ten lines, their margins being generally thickened, rounded, and pale. One ulcer had perforated the bowel, while most of the rest had penetrated through the muscular coat to the peritoneum. The transverse colon was not equally diseased with its ascending and descending portions. Here

the ulcerations were broader, but comparatively superficial. The cæcum and commencement of the colon presented the greatest degree of disorganization. In these parts there were five or six perforations, the largest being fully an inch in diameter. There were likewise many small ulcerations interspersed amongst the larger, which were collected into groups, that had, in most cases, penetrated to the peritoneal coat. The mucous membrane, especially in the cæcum and beginning of the colon, was of a pale colour, softened, and easily separable from the submucous tissue. The ilium, with the exception of slight vascularity of its lining membrane, was perfectly healthy. The liver was rather hypertrophied, but natural as to colour and consistence; the gall-bladder was distended with bile. Spleen and other viscera normal. The small intestines contained hardly any fecal matter. The abdomen was the only cavity it was considered necessary to examine.

Lisburn, April 13, 1836.

ACCOUNT OF THE HABITS AND ILLNESS OF THE LATE CHIMPANZEE.

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CONTRIBUTION TO COMPARATIVE ANATOMY. —INTESTINAL FEVER AND ULCERATION.

THE Chimpanzee belongs to the order quadrumana, the genus simia, and the sub-genus troglodytes. While the orang outang is of Asiatic birth, the chimpanzee is an inhabitant of the intertropical portion of Africa, and there alone has hitherto been found. He is, probably, the barris, or great wild man of the African woods, of which vague accounts have been given by travellers. He was seen 300 years before the Christian era, by Hanno, the Carthaginian. The skeleton of an adult chimpanzee is preserved in the museum of Mr. Walker, of Curzon-street: but few living ones have reached Europe, and they have survived their arrival in Great Britain a very little while. They have all exhibited much affection for those who had the care of them: but no opportunity has yet been given to ascertain, whether this quality gave way in the adult animal, as in the orang, to obstinacy and ferocity.

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