

ART. XIV.—*Observations on Chronic Dysentery*. By R. MAYNE, M. D., F. R. C. S. I.; Physician to the South Dublin Union Workhouse, and Lecturer on Anatomy and Physiology at the Carmichael School of Medicine.

HAVING in a former paper in this Journal^(a) given a brief sketch of the late epidemic dysentery, as it fell under my observation in its acute form, I purpose in the present communication to notice some of the more remarkable complications which arose in the chronic variety of the disease. I shall not dwell at any length upon the symptoms or the pathology of chronic dysentery; both are, unfortunately, but too well known to the profession in Ireland, and neither of them presented in the late epidemic any features of novelty.

In several cases *venous inflammation* appeared as a complication of dysentery: in some patients it assumed the form of the adhesive phlebitis, seizing upon the iliac veins and sometimes even extending to the inferior cava itself. A painful tumefaction of the corresponding lower extremity, presenting all the characters of phlegmasia dolens, was the constant result of this inflammation. In a few dysenteric patients the venous inflammation assumed the suppurative type, or at least the characteristic constitutional disturbance of suppurative phlebitis set in unexpectedly in the progress of dysentery, and was soon followed by purulent deposits in remote parts of the system, with a rapidly fatal result.

It was remarked by my colleague, Mr. Shannon, and myself, that the adhesive phlebitis, producing as it invariably did painful œdema of the lower extremity, occurred exclusively in the *chronic* dysentery, and that it generally attacked persons who had for many weeks been suffering from bowel irritation. The first symptoms usually noticed were severe pain either along the course of the femoral vessels in the groin, or at the

(a) New Series, vol. vii. p. 284.

back of the hip-joint, where the sciatic nerve emerges from the pelvis through the great sciatic notch. Sometimes the first uneasiness was referred to the calf, or even to the front of the leg. In one case the severity of the pain and its situation behind the hip-joint caused the complaint for many hours to bear a striking resemblance to sciatica; and in another the patient was first seized with intense pain in the left lumbar region, immediately beneath the kidney, which, however, quickly extended down to the corresponding groin, in the track of the external iliac vessels.

In the majority the limb became at once almost powerless to support the weight of the trunk, every attempt to assume the erect position causing a bursting sensation along the course of the vessels and an indescribable amount of suffering. Even in the early periods a careful examination of the limb seldom failed to detect marked tenderness upon pressure in the line of the femoral vessels, from Poupart's ligament to the opening in the triceps, through which the vein and artery both pass into the popliteal space. A hard, dense cord, traceable by the fingers, afforded also sufficient evidence of the changes going on within and around the inflamed vessel, whilst the pulsations of the artery were uninterrupted, showing that the vein, not the artery, was chiefly affected. As the disease progressed the various superficial tributary streams, such as the superficial epigastric vein, the superficial circumflex ilii, the great anterior saphena, &c., became remarkably turgid, and by their blue colour gave timely notice that the main channel was obstructed; whilst at a later period the hard, whip-cord-like feel of these vessels abundantly proved that the inflammation had extended to their own parietes.

The swelling which quickly ensued was highly characteristic; unlike ordinary œdema, it seized at once upon the entire extremity, pitting imperfectly on pressure; the circumference of the limb, wherever examined, was found to be at least double that of the corresponding portion of the opposite one. Added

to these symptoms there was at first a decided increase in the temperature of the limb, with marked tenderness upon pressure wherever it was examined; whilst at a later period, when all inflammation was at an end, the enlargement yielded slowly to treatment, weeks sometimes elapsing before any notable diminution took place in the unwieldy member.

It was remarkable that both lower extremities were seldom affected simultaneously; yet, when one of them suffered, the other was very generally attacked at a subsequent period, and it constantly happened that the second attack was traceable to renewed irritation in the large intestine. One patient in particular appeared to have recovered thoroughly from dysentery and phlegmasia dolens of the left lower extremity, when the dysenteric stools recurred, and were followed after a brief interval by painful tumefaction of the right leg and thigh, parts which had escaped perfectly during the former visitation.

As to treatment; most of the patients were already much exhausted by severe dysenteric symptoms, before the venous inflammation set in, and great difficulty was therefore experienced in the choice of remedies. Marked relief was, however, in general, produced by local depletion in the immediate vicinity of the inflamed veins; and thus leeches to the groins and along the course of the femoral vessels proved very effectual. In one case already related, where the pain was referred to the great sciatic notch, cupping the gluteal region was found most beneficial. In this instance, the large veins from the hip and thigh, which here enter the pelvis to throw themselves into the internal iliac veins, were doubtless inflamed, which accounts for the peculiar locality of the pain, and also for its relief by the treatment adopted.

Warm fomentations, and a due attention to the position of the limb, by raising it so as to favour the venous circulation, were exceedingly serviceable. Mercury, exhibited so as to touch the gums moderately, was followed in many instances by a favourable result, as it appeared to possess considerable powers

in controlling the inflammation; but as a prophylactic it was unquestionably a failure, for more than once the right lower extremity was attacked, whilst the gums were still sore from the mercury administered to subdue phlebotic inflammation in the other.

After the acute symptoms had subsided, iodine frictions and the careful application of flannel rollers seemed to hasten the cure; but, under every variety of treatment, the recovery was tedious.

When death ensued, this event was attributable not so much to the venous inflammation as to the unmanageable disease with which it was associated; and so fatal was the accompanying dysentery that many opportunities occurred for examining after death the inflamed veins. The great venous trunks of the diseased limb, viz., the internal iliac, the external iliac, and the femoral, presented in every case, without exception, the well-known characters of adhesive phlebitis; in some, the popliteal, the profunda, the gluteal, and the sciatic, were likewise affected, and in a few the disease had extended to vessels of a still smaller caliber, the anterior and the posterior tibials, the anterior saphena, the epigastric, and the circumflex ilii, superficial and deep, being involved in the inflammation.

The cavities of the affected vessels were filled with coagula, which adhered to the lining membrane, and varied in colour and consistence according to the duration of the disease. When the inflammation was recent, the coagula retained more or less of the colouring matter of the blood; at a subsequent period, the colouring material seemed to have been partially absorbed, and then, these concretions consisted of tough, dingy fibrine, intimately adherent to the venous tissue; whilst at a still later date all traces of red colour had disappeared, and the parietes of the veins were so perfectly amalgamated with the contained coagula, as to defy all attempts to separate them.

In no case had any effort been made by nature to re-esta-

blish the circulation through the diseased vessels, by the formation of new channels either in the centre or along the surface of the coagula; on the contrary, the cavity of the vein was always completely plugged by the concretion, which latter always proved to be a perfectly solid cylinder.

In reflecting upon the extraordinary amount of obstruction revealed by dissection (an obstruction which sometimes affected simultaneously the main channels of the limb up to the very cava itself, as well as the second and third-rate veins, both deep and superficial), an anatomist might well feel at a loss to conjecture how the circulation had been maintained, and be almost excused for doubting the possibility of a cure; whilst all surprise at the slowness with which such cases usually recover would be for ever banished from his mind.

The coats of the inflamed veins were found remarkably thickened; instead of the thin semi-transparent appearance which belongs to them in the healthy condition, they were opaque and tough, so as to be with difficulty distinguishable from the accompanying artery, to which, in general, they closely adhered. The lining membrane also had lost its peculiar polish, and was frequently blood-stained, but without any arborescent vascularity.

Looking to the rectum as the principal source of the irritation, and recollecting that some of the veins of that intestine run into the internal iliac, I at first expected to find, in every case, the inflamed veins traceable to the walls of the gut; in this expectation, however, I was disappointed, for although occasionally one or more of the inferior or middle hemorrhoids presented all the characters of the adhesive phlebitis, yet in the majority the veins of the rectum, down to the very verge of the anus, were found perfectly healthy, although the trunks of the iliac veins were at the same time absolutely impervious from inflammation. It is also particularly worthy of remark that when any of the lower hemorrhoidal veins were found inflamed, many other tributaries of the internal iliac vein were

in precisely the same condition; the uterine, the vaginal, the vesical, &c., were in such cases filled with adherent coagula, and were equally impervious (that is to say they were equally inflamed) with the hemorrhoidals.

Judging from several carefully conducted dissections, I would say that the route by which the inflammation travels in these cases is not by any means constant, and that even the starting point of the inflammation is not uniformly the same. In some, it apparently commenced in one or more of the tributary streams running into the internal iliac vein, and from thence extended *in the line of the circulating current* to the trunk of the internal iliac, the common iliac, and the cava, and *in a retrograde direction* to the external iliac, the femoral and its numerous tributaries, and even to the gluteal and the sciatic veins external to the pelvis. In others the inflammation originated about the confluence of the internal, the external, and the common iliac veins, from which as from a centre it radiated. In a third class of cases the trunk of the internal iliac vein was the first attacked.

It was no very difficult matter in general to determine the *point de départ* of the inflammation, as this was sufficiently indicated by the greater solidity of the coagula, their comparative deficiency in colouring material, their more intimate adhesion to the lining membrane of the vein, and, in a word, their more perfect organization.

The close proximity of the rectum, the sigmoid flexure of the colon, and the cæcum (parts which in chronic dysentery are always extensively diseased), to the iliac veins on either side, may, perhaps, sufficiently account for the readiness with which these vessels take on inflammatory action; but whether this be the true explanation or not, certain it is that the inflammation often *originates* in the trunks of the iliac veins. The excessive irritation of the large intestine in dysentery may excite adhesive inflammation in the neighbouring venous trunks; but in these cases the phlebitis does not necessarily,

nor even generally, commence in the veins of the diseased intestine.

This result of repeated examinations is, after all, what might be expected on theoretical grounds; for most of the venous blood of the large intestine finds its way into the vena portæ, and a small proportion of it comparatively, and that from the lower part of the rectum only, reaches the internal iliac vein; so that, on anatomical principles, phlebitis affecting primarily the veins of the large intestine ought to extend to the vena portæ more frequently than to the internal iliac.

I am fully aware that other observers have also noticed painful tumefaction of the lower extremities as a consequence of dysentery. Dr. Cheyne, in the Dublin Hospital Reports, vol. iii., in describing a former epidemic, says:—"It is worthy of remark, that a swelling occurred in several patients, both male and female, resembling the phlegmasia dolens in every respect, but in its connexion with parturition." When Cheyne wrote, however, the pathology of phlegmasia dolens was unknown, and he therefore does not appear to have suspected that the swellings in question were the result of phlebitis. To Dr. Lee is justly due the credit of having been the first to describe the true pathology of phlegmasia dolens^(a); he was also aware that a similar disease occurs in the male subject in connexion with dysentery, but from the tenor of his observations it would seem that he considered the inflammation to arise in all such cases primarily in the veins of the intestine.

Suppurative Phlebitis.—Of this variety of the disease only a few examples occurred. The symptoms, however, in all of them were so characteristic, that I entertain no doubt whatever of their nature; although, as often happens in such cases, dissection failed to point out satisfactorily the particular veins in which the inflammation originated.

(a) See Medico-Chirurgical Transactions, vol. xv. 1829; also Cyclopædia of Practical Medicine, Art. "Phlegmasia Dolens."

The suppurative phlebitis, unlike the former variety of venous inflammation, appeared as an *early* complication of dysentery, having shown itself in every instance whilst that disease was still in its acute stages. The patients in whom it occurred were invariably affected with dysentery in its worst form, as was abundantly evident by their intense sufferings from the very outset of the disease, as well as by the peculiarly offensive nature of their dejections. The complication in question usually arose some time from the fifth to the twelfth day, and was ushered in with severe rigors, followed by great constitutional disturbance: the pulse rapidly rose to 130 or even 140 in the minute; the countenance became excessively anxious; and rigors, followed occasionally by profuse sweatings, recurred at irregular intervals.

One woman, after presenting these formidable symptoms for eight and forty hours, was suddenly seized with intense pain in the region of the liver, accompanied by slight jaundice and very considerable dyspnœa. After a further interval of many hours, the pain seemed to have shifted to the neighbourhood of the seventh and eighth intercostal spaces, the respirations amounting to forty-four in the minute, and the pulse to 140. On exploring the chest a distinct pleuritic frottement, accompanied by obscure bronchial respiration and crepitus, showed that the right lung, with its investing membrane, had been attacked. The tongue now became dry and brown; the teeth were covered with sordes; there was some delirium; the respiration was very much embarrassed; the dysenteric stools still persisted; the features became altered; and she died finally on the sixth day from the development of the new train of symptoms.

- At the *post mortem* examination a considerable portion of the lower lobe of the right lung was found to be solid, and of a dark purple hue. In colour it resembled nothing so much as the healthy spleen; its surface was roughened by recent lymph, but the quantity of false membrane present was scanty.

Four or five whitish or cream-coloured masses, varying from the size of a large pea to that of a marble, were situated at the base of the lung; in colour they contrasted remarkably with the splenified lung in which they were imbedded: when incised they were found to contain pus. In the right lobe of the liver, and near its posterior margin, there were three small abscesses perfectly isolated, and surrounded by glandular structure which was apparently healthy. Between the diseased portions of the lung and of the liver, the diaphragm alone was interposed. The large intestine from the cæcum to the anus was found in a state of extreme disorganization; its coats were thickened; its contents consisted of a greenish fluid, without any traces of true fæces, and of an abominable odour, almost approaching that of gangrene. The mucous membrane was extensively ulcerated; some of the ulcers seemed to have penetrated deeply into the walls of the gut, but there was no absolute perforation. The veins of the large intestine were examined with care, but I was unable to detect in any of them satisfactory evidences of inflammation.

Another girl, aged 29, was seized, on the fourth day of a second attack of acute dysentery, with a very severe rigor, followed by sweating, and a train of symptoms indicating high constitutional disturbance. Three days subsequently she complained of severe pains in the left elbow and in the right knee joints. On examination these articulations were found exquisitely tender to the touch or upon the slightest motion; there were also considerable puffiness in the neighbourhood of the affected joints, and some increase in the temperature of the integuments over them, but there was little or no redness. This girl had raved incessantly during the preceding night, and she was now so deaf that very great difficulty was experienced in getting her to comprehend questions. The respirations were hurried, from thirty-five to forty in the minute; the pulse was 130; and the skin felt unusually hot and dry to the touch.

Next day she was reported to have had a severe rigor during the night, followed, towards morning, by profuse perspiration. The dysenteric symptoms had continued unrelieved by treatment, no less than twelve stools having occurred from bed-time. She suffered much pain in the affected joints, so much so, that her screams during the night were distressing. Her skin was now of a yellow, dingy colour; the left elbow was flexed and swollen, and exhibited a dusky red patch of inflammation over the radio-humeral articulation; the right knee was swollen and exquisitely painful, but without any inflammatory blush: she complained also of pain in the left side, corresponding to the seventh and eighth intercostal spaces.

On the fifth day there was pain in the joint between the metatarsal bone and the first phalanx of the great toe of the left foot; there had been no rigors during the night, but her sweatings were profuse. She had a sunk look; her tongue was red and dry; the teeth were covered with sordes; the stools were still dysenteric and passed involuntarily.

On the sixth day she was apparently moribund; a mucocrepitant râle was heard over the lower and lateral part of the left lung; the pulse was intermitting, and about 160 in the minute. She died on the following night.

The *post mortem* examination took place twelve hours after death. On removing the calvarium, the dura mater appeared exceedingly vascular. It was covered with a profusion of bloody dots, and its veins in particular were remarkably turgid. A considerable deposit of pus was found between the dura mater and the mastoid process of the right temporal bone, in the course of the great lateral sinus. The dura mater was here fairly separated from the bone by the matter. There was no evidence whatever of any pre-existing disease in the bone, nor did the neighbouring sinus, although most carefully examined, display any appearance of inflammation. There were black coagula of soft consistence in the great lateral sinuses

and in the internal jugulars at either side of the neck, but these concretions did not adhere to the lining membrane.

In the pericardium a quantity of thin yellowish pus was found, and both the visceral and the parietal layer of this membrane presented intense arborescent vascularity. Of the lungs, the right was healthy; the lower lobe of the left was completely splenified: this portion of the organ was likewise remarkably soft and friable. When incised it exhibited eight or ten spots the size of split peas, out of which pure pus exuded on compression.

In the abdomen the large intestine was found diseased from one end to the other. Its mucous membrane presented every where the most extreme vascularity, but as usual the inflammation was most intense in the rectum and in the sigmoid flexure of the colon. From the cæcum to the anus the lining membrane was everywhere so soft that the slightest force by the nail was sufficient to detach it from the subjacent tissues. There were likewise several ulcers in different parts of the large intestine. These ulcers were solitary, their surfaces were sloughy, and the deepest and largest of them were situated in the upper part of the rectum; the small intestine was healthy; the liver was soft and friable, but it contained no pus; the gall-bladder contained a moderate quantity of greenish bile; the kidneys, spleen, and uterus were healthy.

The right knee-joint contained a large quantity of thin yellowish pus, but there was no softening or abrasion of the cartilages of incrustation. The synovial membrane over the front of the lower part of the femur was very vascular, but the vascularity could not be traced over the cartilages. There was also purulent matter in the left elbow-joint and in the metatarso-phalangeal articulation of the great toe of the left foot.

The veins of the large intestine were carefully examined, but without affording satisfactory evidence of inflammation.

The two cases here briefly related may be taken as good specimens of the class they are intended to exemplify. That in

each of them pus had entered the circulation, poisoned the blood, and determined the formation of local abscesses, will probably be admitted, whether with Cruveilhier we attribute the phenomena to phlebitis, or, with Velpeau and others, we admit *la doctrine de la résorption et de dépôt de pus*.

The large intestine, containing, as it often does in dysentery, remarkably fetid secretions, with its lining membrane softened, eroded, and sometimes semi-gangrenous, and with its walls more or less extensively ulcerated, would certainly appear to realize the conditions most likely to excite suppurative inflammation in the veins which take up the blood from its parietes; and it therefore seems exceedingly probable, although not actually proved by demonstrative evidence, that a phlebitis of some of the rectal or the colic roots of the vena portæ was the source of the constitutional disturbance, as well as of the local suppurations observed in the cases above described. Dr. Budd^(a) has ably argued in favour of this view of the source of hepatic abscesses, when associated, as they often are in hot climates, with dysentery.

Amongst the complications of chronic dysentery a *peculiar form of dropsy* was certainly the most remarkable; by it many patients were cut off in a very unexpected manner, effusions into the serous membranes, or into the parenchyma of important organs, having suddenly taken place. At first the novelty of these cases attracted uncommon attention, but they soon became so frequent that their occasional occurrence was looked for almost as a matter of course.

A slight puffiness of the eye-lids, with an œdematous condition of the feet, were usually the earliest symptoms, and when these were once fairly established the patient was no longer safe from internal effusions. Of the serous membranes the arachnoid most frequently suffered; the pleuræ came next in

(a) See Diseases of the Liver, p. 61, by George Budd, M. D. London, 1845.

the order of frequency ; the pericardium was more rarely affected ; and the peritoneum almost invariably escaped.

The comparative immunity from effusion which the peritoneum enjoyed, appears to be a very remarkable circumstance in the history of this dropsy, particularly when it is recollected that the large intestine, the special seat of dysentery, is extensively covered by that serous membrane.

The symptoms which ushered in the cerebral effusions exhibited considerable diversity in different cases ; very frequently death occurred with all the indications of an apoplectic seizure, the patient having become unexpectedly stupid and lethargic, a condition which was soon followed by stertorous breathing, total insensibility, and death. Many who appeared tolerably well and perfectly rational at bed-time, were observed to breathe heavily during the night, and became completely comatose before morning. The sudden and unexpected manner in which death thus occurred was the cause of much anxiety until repeated dissections showed the true nature of these cases.

In some patients marked cerebral excitement, characterized by a singular train of symptoms, preceded for days the fatal event. In a few, aberration of intellect, and even maniacal symptoms, were the precursors. Some became unexpectedly morose and taciturn, answering in monosyllables, and in the gruffest manner ; this was soon followed by more decided indications, such as a constant rocking motion of the head, or severe and fatal general convulsions. Others again laboured for many days together under strange mental illusions, which ended in stupor or convulsions, the certain forerunners of death. Many who had been discharged apparently convalescent from the dysentery wards were brought back after a few days with œdematous feet, and more or less impairment of the mental faculties. The ward-masters complained that they wandered about the house in a state bordering on fatuity. When questioned their answers were slow and incoherent ; they forgot

what they had said a few minutes previously; their speech was often thick, and their memory and reasoning powers were defective. Some of them would repeat the same words constantly in the most unmeaning manner, whilst others would reply to all questions in precisely the same words, often without any reference whatever to the queries put to them. These latter symptoms often occurred in persons beyond the middle periods of life, and were a sure indication that still more serious consequences were impending.

Few of these patients complained directly of the head, indeed there was in general a remarkable absence of pain in the affected organ; nor were there any symptoms to denote the existence of inflammation, or even of congestion of the brain. The scalp was neither unduly vascular nor hot; the conjunctiva was bloodless; the pupils were regular, and equally obedient to the influence of light. In one or two instances the pupils were contracted to the size of a pin's point, but these were evidently exceptional cases. The special senses were unimpaired, nor was there any paralysis.

In the end the pathology of all these brain affections was found to be pretty uniformly the same. Extensive serous effusions always existed, not only in the sac of the arachnoid, but also in the ventricles, in the subserous tissue at the base of the brain, and deeply in all the sulci, even those seated on the convexities of the cerebral hemispheres; in fact the disease was, in the fullest sense of the word, a dropsy of the arachnoid.

In the removal of the brain from the cranial cavity, an unusually large quantity of limpid serum always escaped. On laying the organ aside for even a few minutes, the table on which it stood was sure to be deluged by the draining of a similar fluid from the subserous spaces; and on stripping off the membranes from any part of the surface of the hemispheres, quantities of serum flowed out from each sulcus as it was exposed.

In no instance was lymph any where detected. In the ma-

jority the cerebral substance appeared healthy. In a few cases there was a sort of general softening of the organ, nothing like a defined ramollissement of any particular part of the encephalon, but a diminished consistence of the entire, sufficient to render the freshest brain unfit for anatomical purposes.

As a general rule there was no increased vascularity within the cranium; but in a very small proportion of the bodies examined, the veins of the dura mater were slightly congested; and the pia mater on the convexities of the hemispheres exhibited large vascular patches, which looked as if the parts had been daubed with florid blood. This hyperemia was scarcely sufficient to justify the inference that it was inflammatory, at most it seemed to be akin to certain passive forms of inflammation known to occur in states of the constitution which forbid depletion.

When the chest was about to become the seat of the dropsical effusion, a short cough and slight dyspnœa generally gave timely warning of what was impending. In such cases the patients themselves were often little conscious of their approaching dissolution, their attention being altogether absorbed by the irritation of the bowels; death, nevertheless, frequently ensued with extreme rapidity, the hydrops pericardii, or the hydro-thorax, proving fatal as rapidly as the cerebral effusions above described.

Sometimes the chest symptoms predominated for days before death, the breathing being extremely embarrassed, and the sense of suffocation imminent.

In one case effusion set in with such frightful rapidity that death seemed to be inevitable. The stethoscopic signs of pleural effusion were however so evident, that in consultation with Mr. Shannon, it was determined, as a forlorn hope, to try paracentesis. The operation succeeded beyond expectation; a very large quantity of perfectly limpid serum was withdrawn by him from the left side of the thorax; immediate relief was the consequence, and the girl even recovered temporarily from

the dysentery, although she died in some months afterwards from the effects of a relapse.

The morbid appearances presented after death in this latter class of cases were pretty uniform. Limpid serum in large quantity was found in one or both pleural sacs, or in the pericardium, and the lungs, usually healthy in structure, were more or less compressed by the liquid contents of their serous membranes. Sometimes the pulmonary tissue was itself the seat of extensive œdema; the specific gravity of the lung was then much increased; it collapsed very imperfectly when the chest was laid open; its parenchyma was friable; and when incised, a surprising quantity of frothy, blood-tinged serum exuded from its cut surface, as if from a sponge.

Another very remarkable complication of chronic dysentery which I had many opportunities of witnessing was a singular variety of *spontaneous salivation*; it appeared only in cases of extremely protracted dysentery; and when present, it seemed to supersede every other symptom. On inquiry, the persons in whom it occurred were always found to have been for months, sometimes for many months, suffering from dysentery. Most of them complained of soreness of the mouth, simultaneously with the salivation; and on inspection, the cheeks, gums, and palate appeared slightly reddened, and the tongue morbidly clean, red, and tender; but there was no fetor of the breath, no ulceration or swelling of the gums, the tongue, or the cheeks, nor were the teeth ever loosened. The quantity of saliva discharged in these cases was sometimes enormous, amounting to two, three, or even four pints in the twenty-four hours, and continuing at that rate for weeks together.

This salivation often assumed a periodic character, ceasing spontaneously in the morning, to re-appear about 2 or 3 o'clock, P. M., and to persist throughout the entire night.

I have in many instances known it to alternate with head symptoms, ceasing suddenly on the supervention of delirium,

convulsions, or maniacal indications, and re-appearing after an uncertain interval of time, with manifest relief to the brain. Sometimes this flux plainly alternated with profuse bowel discharges, and it even occasionally seemed to supersede and replace the œdematous condition of the extremities.

With some of the patients who suffered from this distressing sequela, mercury had been tried unsuccessfully many months previously; some had used no mercury, if their own statements were to be credited, and none certainly had been administered to them whilst under my care, as the disease was too far advanced for the mercurial treatment at the time of their admission into hospital. In no case was the patient taking mercury at the time of his seizure, nor had any of them for a considerable period before the salivation commenced made use of any mercurial preparation.

This flux evidently belongs to the same category with the dropsical symptoms already noticed; like them it occurred in the advanced stages only of chronic dysentery, and with many of those dropsical symptoms it actually alternated. Thus, when the salivation was profuse, there were no indications of cerebral effusions, and chest symptoms were absent; but no sooner had the discharge from the mouth ceased suddenly than marked determination to the arachnoid, or to other serous surfaces, arose.

A review of the entire of these complications shows that there was no single organic source to which they could be referred. The most minute examination of the kidneys failed to display the slightest appearance of disease in these organs. The heart was always healthy, at least it was free from any valvular disease or other lesion likely to obstruct the circulation, although it participated more or less in the general atrophy of the entire system. The salivary glands were more than once dissected with the greatest care, but the pancreas proved to be perfectly healthy, and the parotids, the sub-maxillaries, and the sub-linguals, afforded no satisfactory ex-

planation of the excessive discharges which had emanated from them during life. An anatomist would probably have said that they were less plump, and even paler than natural.

The liver alone, of all the glandular organs, was invariably diseased. It was usually soft enough to tear on the application of the slightest force, so that much difficulty was oftentimes experienced in removing it unruptured from the body; in this condition the fingers readily passed through its parenchyma, which, although perfectly fresh, broke down as if in an advanced stage of putrefaction: conjoined with this softening there was often extreme congestion of the liver. Under these circumstances the gland was gorged with black fluid blood, which flowed out in excessive quantities when the parenchyma was torn or incised. The softened condition of the liver was nearly constant, not so, however, the congestion; for, on very many occasions where even moderate pressure would have reduced the gland to a pulp, it appeared pale on the surface and almost bloodless when divided.

These organic changes in the liver can scarcely be held to have had any concern in producing the effusions, seeing that the liver was thus altered in almost every case of very chronic dysentery, whether dropsical symptoms were present or absent; and that, of all the serous membranes, the peritoneum alone was seldom or never the seat of effusion, although ascites is the form of dropsy most likely to be the result of hepatic disease.

To an altered condition of the blood we must, I think, attribute the cause of the mischief, for it is scarcely too much to suppose that this vital fluid becomes changed in its properties by the lengthened disturbance to the digestive processes and the consequent defective nutrition inevitable in every case of protracted dysentery. To produce healthy secretions in proper quantity, not only must the secreting surfaces be healthy, and the circulating organs free from obstruction, but *the materials out of which the secretions are elaborated must retain their natural*

properties; that they do so in chronic dysentery may well be doubted.

When the dropsical stage of dysentery has fairly set in the time for successful treatment has well-nigh elapsed. This stage may be prevented, it is but rarely cured. Some cases undoubtedly there are where the disease, from the very outset, is of so bad a type that the most judicious management fails to be of the slightest avail, but in a vast majority, dysentery commences with acute symptoms, which are readily enough subdued if energetically treated, and which gradually merge into the chronic form when neglected.

Later experience enables me to add but little to the *treatment* recommended for acute dysentery in a former communication^(a), and therefore I shall here merely state that my confidence in the plan of treatment there detailed, but more particularly in the mercurial treatment, remains unshaken.

Chronic dysentery must be considered a very unmanageable disease; treat it as we may, the result is often unfortunate, few complaints being more intractable. I have no specific to recommend, nor do I believe that any such remedy has hitherto been discovered. Mercury, so powerful an agent in the *acute* disease, seldom fails to aggravate the *chronic*, whether used by the mouth or by inunction. Of most of the metallic tonics and astringents I must speak in doubtful terms. Nitrate of silver, sulphate of copper, and the trisnitrate of bismuth, variously combined, were fairly tried, and finally laid aside as being uncertain in their effects, although occasionally useful. The pure astringents were scarcely more successful. Logwood was a signal failure, so was tannin, so was acetate of lead, and I may say the same of matico, and other remedies of that class. The turpentine, no matter in what combination, were seldom borne by the stomach. Opium, although absolutely requisite for the relief of pain and irritation, yet proved wholly inadequate to

(a) Dublin Quarterly Journal, N. S., vol. vii.

cure the disease. Simaruba, tormentilla, and angustura, led to no favourable results; and although the mineral acids were sometimes of service, their exhibition frequently ended in disappointment.

The class of remedies to which, after many trials, I am most partial, are those which combine tonic with slightly astringent properties; and as tonics, bark and iron were certainly in my hands the most effectual. Decoction of bark, with lime-water, in equal proportions, very frequently succeeded. The compound infusion of sarsaparilla, with infusion of bark; the compound powder of chalk and opium, with the saccharine carbonate of iron; quina and opium in pills; the persesquintrate of iron and tincture of opium; and even the compound iron mixture, were all in their turn advantageous. The mineral acids were sometimes of decided use in checking the salivation.

It is, however, upon a judiciously regulated regimen that the physician must mainly rely in his efforts to combat this truly formidable disease. In order to afford the patient the remotest chance of recovery, his system must be supported from the earliest stages of chronic dysentery. Arrow-root, sago, and such articles of food, well calculated as they are for the temporary relief of intestinal irritation, are but badly adapted for the formation of healthy blood. Eggs and milk are particularly suitable to dysenteric patients. The majority of them not only bear stimulants, but absolutely require them; and thus brandy and milk, egg-flip, and even wine, are occasionally necessary.

Dr. Graves has remarked, that "in chronic dysentery meat is far too much refrained from, and that many cases which obstinately resist the most varied remedies, assiduously employed, get well rapidly after a liberal allowance of meat is given to them"(a). To the truth of this assertion I can bear the most ample testimony, having often succeeded in this way after the failure of all other measures.

(a) Clinical Lectures, by Neligan, vol. ii. p. 238.

In hospital practice extreme attention to ventilation and cleanliness can scarcely be too highly estimated; *with crowded wards* no remedial measures can be successful.

In addition to other sanitary arrangements, the dysentery wards at the South Dublin Union Workhouse were all in their turn cleared, fumigated with chlorine, scoured, painted, and then furnished with new bedding; the entire process occupying about a week. During the late epidemic this plan was perseveringly carried out, and with the most favourable results; the inconvenience of always having a ward unoccupied being more than counterbalanced by the marked improvement of the sick.

If the patient be young, recovery sometimes occurs under circumstances apparently desperate; if he be at all advanced in life, the chances of a favourable result are greatly diminished. One case has been already mentioned, where paracentesis of the chest appeared to save the life of a girl aged about nineteen years; and in another instance a girl of 20, was reduced to a state of the most extreme emaciation, she was frightfully convulsed for several hours, and remained maniacal for many days, and yet she finally recovered, and left the hospital in perfect health. In the latter, blisters freely applied to the scalp and nape of the neck afforded relief to the brain.

In Dr. Latham's graphic description of the epidemic at the Millbank Penitentiary many details are given, which show a strong similarity between the disease observed by him and that which lately prevailed in Dublin.