

strength by the judicious administration of suitable nourishment, and wine or other stimulants.

ACUTE CONSOLIDATION OF THE LUNG in fever may be considered, with regard to practice, under several forms: First, that in which symptoms and signs of anything like acute or sthenic inflammation do not occur. The disease is in these cases more or less silent or latent, and recognizable chiefly by physical signs. You are to treat this affection by dry-cupping, blisters, quinine, turpentine, and wine.

But between these cases and others where a greater activity of the ordinary inflammatory symptoms is observed, indicating that a local antiphlogistic treatment may be employed with advantage, there exists an intermediate form which includes cases of almost infinite shades and varieties of character.

In cases of the secondary pneumonic affection which possess many of the characters of acute sthenic pneumonia, there may be pain in the side, great local increase of temperature, and distress of respiration. Here the application of a few leeches, or of the scarificator and cupping-glass, may be followed by immediate and marked relief to the patient. In many such instances the use of wine is not to be intermitted on account of the practice of local depletion. There is a point of great importance in practical medicine—one which I wish to impress strongly upon you—namely, that lines of treatment apparently opposite or antagonistic may, under certain circumstances, be employed simultaneously with success. Your treatment is to be influenced not by the *name* of a disease, but by the condition of your patient; and you may relieve local irritation by local blood-letting while you support the general system, and deal with the essential disease by the use of stimulants.

When describing in a former lecture those consolidations of the lung, especially of its upper lobe, in fever, which seemed to partake of the nature of a crisis, I said that it was often a matter of doubt whether the clearing of the lung was to be attributed to the remedial measures employed or to the spontaneous subsidence of the condition in obedience to the law of periodicity. However, a small blister or two may be used, and the application of the tincture of iodine externally, with the exhibition of iodide of potassium in combination with a tonic, may be of advantage.

I need not say to the students of large bedside experience that it is sometimes difficult to distinguish between a primary pneumonia with a symptomatic fever and states of the lung secondary to typhus or to typhoid. You will, also, be prepared to hear that this difficulty has been more commonly met with since the period of change of type

in disease. Still, during the last few years, several cases of primary pneumonia have come under our notice, in which, though with less of the general violence of symptoms once so familiar to us, we have used the lancet—moderately, it is true, but with the most rapid success. The pain, the adhesive red expectoration, the state of the heart, and the early appearance of the symptoms, were our chief guides.

The dreadful occurrence of sphacelus in consolidation of the lung in typhus is to be met by the antiseptic and stimulant treatment.

That recovery is possible in this catastrophe I have already shown you. The patient in question died after a lapse of some years from the first attack. We found recent sphacelus in one lung, and a cavity containing a dry slough, and with a firm lining membrane in the other.

### LECTURE XXXI.

TREATMENT OF INTESTINAL SECONDARY AFFECTIONS.—Two chief indications: (1) alleviation of symptoms, (2) modification of typhous deposition—Poulticing—Local depletion in early stage—Analogy in variolous eruption—Danger of alterative or purgative treatment at the outset of Continued Fever—Necessity for caution—Constipation—Diarrhoea—Poultices, demulcents, sedative astringents, injections of flaxseed tea—Tympany—Turpentine injection—Diet in diarrhoea—Perforative peritonitis—Opium our sheet-anchor—Danger of the antiphlogistic method—Dr. Murchison on the treatment of this accident—Bran poultices and warm fomentations—Hemorrhage from the intestine in fever—Not to be interfered with unless continued and excessive—Treatment by astringents, opium—Illustrative case.

IN a case of enteric fever, or of a well marked typhus with more or less of intestinal affection, your efforts in reference to the treatment of the local secondary disease will be directed less to the cure than to the palliation of the symptoms, and to diminishing the activity of that process under which the *mucous* membrane and glands become the seat of the typhous deposit.

We seek to lessen the amount of change by modifying the specific and afterwards the reactive irritation.

Local bleeding and diligent poulticing are the measures on which reliance is to be placed in the first instance, while everything which might excite overaction or hypersecretion of the intestines is to be avoided. The first of these remedial measures is best effected by moderate leeching of the ileo-cæcal, and in some cases the epigastric regions, due regard being paid to the strength of the patient and to



the period of the case at which the local symptoms become manifest. In the earlier periods from six to ten leeches may be applied first to one and then to the other situation, and this will be often followed by the relief of local suffering and—as regards the general symptoms—by the best effects. The repetition of this local bleeding will depend on circumstances. But if tenderness, local fulness, increased arterial action of the belly, or muscular rigidity be wholly or in part removed or modified, it is not often necessary to repeat the application. I need scarcely say that the presence of these symptoms affords an indication for this early use of local depletion.

I have shown you that Broussais, in defence of the doctrine that fever was only symptomatic of gastroenteritis, appealed to the fact of the relief which often follows local depletion, and I have suggested a more probable interpretation of the entire matter. Local depletion, if employed sufficiently early in the case, may prevent altogether, or greatly modify the development of intestinal symptoms. Here it would seem that the lessening of the blood supply interfered with the deposition of typhous material along the intestinal tract in the agminated and solitary glands. This is strikingly analogous to what is observed in certain cases of variola, where the local development of the secondary eruption on the face or elsewhere is largely under control by the application of leeches or by strapping the part at an early stage of the disease. This point I have already illustrated in a former lecture.

Again the analogy holds good with respect to the pustular eruption of variola, and the secondary typhous deposits of fever in the intestinal tract. For even where there is good reason for supposing that these deposits have already taken place, and are passing on to ulceration, it is found that local depletion may be of the greatest use in allaying irritation and so preventing the violence of a reactive inflammation.

All this goes to prove that the influence of local depletion cannot be taken as an evidence of the primary nature of the local malady; for in the first place it receives a similar and easier explanation from the hypothesis of an essential disease with a secondary local affection; and in the next place the argument from analogy is altogether in support of this hypothesis, and against the views of Broussais.

It is still necessary—I regret to say it—to warn you against following the routine practice of giving what is called “alterative,” combined with purgative, medicine, in the early periods of fever—a course too commonly followed, even while the practitioner is unaware of the nature of the disease he is treating. In this way a threefold injury

is inflicted. The strength of the patient is exhausted at a time when it should be husbanded; the normal course of the fever is interfered with; and, should there be any tendency to the intestinal affection, it is doubtless augmented and exasperated by measures which determine to the part of the economy most likely to be the seat of lesion. This is analogous to what is often observed in constitutional maladies. Thus, in cancerous cachexia the local organic change is frequently determined by the receipt of some injury. In acute essential diseases, again, the same thing is noticed, as for example in variola, where the application of rubefacients will be followed by an increased development of the eruption, while a contrary effect will, as we have seen in a former lecture, be produced by local depletive measures.

In a large proportion of our cases of perforative peritonitis, hypercatharsis by saline purgatives had been induced at an early period with the mistaken view of seeking to cut the fever short.

We have spoken of the use of leeches and of light poulticing. Should there be constipation, with swelling of the abdomen, to such an extent as to render it advisable to free the bowels, mild enemata may be employed, and turpentine fomentations applied to the surface. The enemata must be composed of the blandest fluids, to which, if there be any troublesome tympany, a little turpentine made into an emulsion with yolk of egg may be added.

I am ready to admit that cases will constantly present themselves, in which the practitioner will be at a loss to determine whether continued fever is threatening, or the symptoms are to be referred merely to the presence of a “feverish cold.” Under these circumstances I would still inculcate the necessity for caution, and would recommend that the smallest doses of aperient medicines likely to effect the objects in view should be employed.

But when you have symptoms of irritation of the intestine attended by diarrhœa, the use of poultices and of demulcents may be combined with that of astringents of a sedative nature. I know no better remedy than the acetate of lead given with some preparation of opium. In the form of pill these two drugs may be conveniently given; but if ordered in a mixture, it will be necessary to substitute the acetate of morphia for crude opium. I have never seen any bad result from lessening or checking the diarrhœa, or any symptoms of lead-poisoning, even when this medicine had been continued for many days.

Here I may allude to the fact, that, in the first two epidemics of cholera in this city, the use of the “*pilula plumbi cum opio*” was introduced by Dr. Graves, following the recommendation as to the value of the acetate of lead in the diarrhœa of Continued Fever by Sir



James Bardsley.<sup>1</sup> The remedy, in the hands of Dr. Graves and of many others, was employed in a vast number of cases, and I believe that during this great clinical experiment not a single case of lead-poisoning occurred either in the earlier stages of the case or in the later period of convalescence. We must, of course, remember that the acetate of lead is by no means so poisonous as the carbonate; but I would caution you against its possible change into this latter salt. If, for instance, it is compounded in a mixture with water containing carbonate of lime, it may be decomposed. This is still more likely to occur in the use of lead-lotions. The most violent and long-continued case of lead-colic I ever saw was that of a woman who had suffered from an extensive burn of the abdomen. Lead-lotion was applied to the injured surface for weeks together, and we must suppose that a considerable quantity of carbonate of lead was formed and absorbed, for symptoms of poisoning soon showed themselves.

To return—you are to use demulcents either by the mouth or in the form of injection. I remember, when a student, that a remedy called the “*mistura olei et opii*,” was extensively employed in this hospital, and with the best effect. It was an emulsion of oil, gum arabic, and cinnamon water, to which a little laudanum was added. We used to believe that it acted mainly in lubricating the irritated surfaces. The injection which we have employed with greatest advantage in diarrhoea in fever has been one of flaxseed tea, to which a few drops of laudanum may be added. The infusion of flaxseed should be made with unbruised seed, and its effect in producing a sensation of general soothing, perceived throughout the intestinal tract, is most remarkable.

I have already spoken of the value of a turpentine injection in cases of constipation with tympany, but when this latter symptom accompanies diarrhoea, and becomes very extreme, the same remedy is often indicated. You might suppose that given by the mouth the turpentine would act as a purgative; but if it is given in small and repeated doses—as, for example, from 15 minims to half a drachm every two or three hours—the result may be just the opposite.

Nor is the mere symptom of tympany to be neglected, for although it is by no means commonly of much importance in the early stages of intestinal lesion in fever, it may assume dangerous proportions.

Some years ago a case occurred in these wards in which abdominal tympany seemed to be the direct cause of death. It resisted all

<sup>1</sup> Clinical Lectures on the Practice of Medicine, reprinted from the second edition, 1864, p. 317.

remedies, and we failed in the attempt to pass the long tube beyond the sigmoid flexure. On dissection the small intestine and the colon were found enormously distended—the large intestine being turned over and obstructed by the formation of a complete fold at the commencement of the sigmoid flexure.

Two points connected with the treatment of diarrhoea in fever remain to be considered. In the first place, we have to deal with the question of *diet*. We have already spoken of diet generally in fever, and you will remember the rules which were laid down for your guidance. It is occasionally found that beef-tea tends to increase the diarrhoea. Should this occur, we must either give it in smaller quantities, or suspend its administration. Chicken broth may be substituted, or farinaceous foods employed. Arrowroot with port wine, sago, tapioca, rice, rice milk, plain or boiled milk, and milk and lime-water in varying proportions are articles of diet to which recourse may be had. I have also used eggs, and have found them to agree perfectly. They may be boiled, or beaten up raw with milk sweetened with sugar. “Egg-flip,” or the “*mistura spiritus vini Gallici*” of the “British Pharmacopœia,” is one of the most valuable stimulant and nutritive preparations we possess.

The second point relates to the exhibition of other astringents than those already mentioned. These are “chalk mixture,” gallic and tannic acids, the astringent tinctures (kino, rhatany, logwood, and so on), and dilute sulphuric acid. They are, I believe, all useful in their way. I have given pills of tannic acid combined with Dover’s powder with good effect; but the most valuable of the remedies I have just named is undoubtedly the dilute sulphuric acid. It has a three-fold value—it allays thirst, acts as a tonic, and possesses powerfully astringent properties. It may be administered frequently, and in doses of from 15 to 25 or 30 minims well diluted; or the aromatic sulphuric may be substituted.

We shall now speak of peritonitis resulting from perforation of the intestine, the occurrence of which may be explained by that insusceptibility of the peritoneum to adhesive inflammation which we have already considered. Remember how rarely we meet with general adhesions of the peritoneum in comparison with the frequency of such a condition in the pleura. Now, it would appear that the violent symptoms of perforation depend, less on a localized serous inflammation corresponding to a perforating ulcer of the intestine, than on the fact that an effusion of the contents of the tube into the general cavity causes suddenly an extreme and commonly fatal inflammation. You may occasionally meet cases where, although the serous membrane is



perforated, no *general* inflammation occurs—the process is circumscribed, and is not attended with any effect on the constitutional symptoms. In fact, there is occlusion of the opening—the base of the ulcer being formed by the serous membrane of the adjacent fold of intestine, so that no effusion of the contents takes place. And we have seen that the effect of intense irritation in another cavity may be to render latent even a general inflammation from effusion, as in gastro-catarrhal fever or in cases of cerebral complication.

Dr. Murchison<sup>1</sup> gives a remarkable example of the latter. A young man aged 19, in enteric fever with acute delirium, suffered from profuse intestinal hemorrhage, but there were no symptoms of peritonitis. After death, on the 19th day, there were found ulceration of the intestine, perforation, and peritonitis.

Now, if we compare this terrible accident with the analogous condition of empyema and pneumothorax from perforation of the pleura, it seems to be more rapidly and certainly fatal. For, although in the chest the accident is often attended by violent symptoms, these are attributable rather to the frequently consequent and sudden collapse of the lung than to the influence of the resulting pleuritis on the nervous system.

It frequently happens in pneumothorax, that, after the first storm of suffering is past, there comes an interval of calm—often prolonged—while occasionally many of the vital symptoms of pulmonary disease disappear. The condition of collapse and compression seems, even for a long time, to suspend the diseased process in the lung, so that its constitutional symptoms may actually subside and disappear temporarily.

It was long believed, and is by some still held, that general peritonitis from perforation in fever is invariably fatal. But we have in this hospital arrived at a different conclusion. It is now many years since a female suffering from ascites, and under the care of Dr. Graves, underwent the operation of paracentesis, soon after which she was seized with symptoms of acute peritonitis. In those days, I may tell you, such an accident in the operation of tapping was not uncommon, and no wonder. A very large trocar and canula were employed, and efforts made to get rid of every drop of fluid. With this view the abdomen, while the canula remained in the wound, was compressed and kneaded in various places—the mouth of the hard instrument thus scraping against the serous membrane of the intestines—and a tight bandage afterwards applied. Besides the effect of all this vio-

<sup>1</sup> Continued Fevers of Great Britain, second edition, page 571.

lence, the serous surfaces, long separated from the effusion, were rapidly brought into contact, so that you can easily understand the frequency of peritonitis. The accident is now comparatively rare.

In the case before us the strength was greatly reduced, and no remedial measure was proposed by the operator. The woman being in extreme pain, Dr. Graves administered a full opiate, with the best effect. Sleep soon followed, and after a few hours the patient awoke with the symptoms greatly alleviated. The opium was repeated in diminished doses, and after a few days all the symptoms of acute peritonitis had subsided. She made an excellent recovery.

The success in this case determined us to employ opium in free doses in the first example of perforative peritonitis which occurred, and the practice has since then proved in many instances successful.

The two great indications of relieving pain and of controlling the peristaltic action have been in these wards and in the practice of several of my friends fulfilled with the happiest effects, while the interesting result of the tolerance of opium in large quantities in acute peritonitis has been established. Thus a grain of opium, exhibited every hour, has been often given without any poisonous effect whatever.

A case occurred here which illustrates the danger which may follow any excitement of the peristaltic action even after recovery from the first access of peritonitis has ensued. A young man, in an enteric fever, was suddenly seized with the most violent symptoms of peritonitis. The pulse became small, rapid, and wiry—the abdomen swollen and exquisitely tender. No doubt was entertained as to the occurrence of a perforation, and the opium treatment was at once resorted to and continued for twenty-four hours. Next day the symptoms were greatly lessened in intensity, and we continued the remedy at longer intervals for a few days. All symptoms of peritonitis disappeared, the abdomen felt natural, and the pulse had returned almost to its normal standard. The patient's condition improved daily, he took nourishment freely, when, the bowels having been confined for many days, a very mild saline laxative was unfortunately given. It acted gently, when the former symptoms at once returned, and the patient sank in the course of some hours. On dissection, well-formed but recent adhesions were found in different portions of the peritoneum—evidently the result of the first, all-but-cured attack. The perforation was in the ascending colon. It was patulous, while bilious and feculent fluid existed in the serous cavity.

Now, that this patient would have been saved, had the laxative



been withheld, there can be little doubt, and the case is full of instruction and warning.

There are few more interesting and important facts in therapeutics than the tolerance of opium in repeated doses in this form of peritonitis, and the remedy has been found applicable in other cases besides those of intestinal perforation. It has succeeded in a rupture from an over-distended bladder, in which immediately after the accident no urine could be found by the catheter. In a case in which an hepatic abscess had opened into the peritoneum, the inflammatory symptoms entirely subsided after a few days of the opium treatment. On dissection, after death from another abscess, numerous organized adhesions were observed between the convolutions of the intestine and the parietal peritoneum.

In connection with this subject of the treatment of perforative peritonitis, it may be well to remind you that this complication of fever, like the other secondary affections, varies in frequency according to the prevailing epidemic characters of the disease. Thus previously to 1827 Dr. Graves observed but one instance of the lesion out of more than 1000 cases of fever, while during the session of 1828-29 the occurrence was frequent in Dublin. At the present day, again, even though enteric fever has increased in prevalence, this terrible accident is comparatively rare.

Dr. Graves and I<sup>1</sup> have shown that the antiphlogistic method of treatment is not so applicable in these cases as in examples of idiopathic peritonitis. In the first place, the perforation occurs at an advanced period of some other disease, when the constitution is enfeebled, and, at the time you will be called on to interfere, the patient is suffering not merely from general peritonitis but from the collapse which attends the accident. The disease runs its course with such rapidity that in a comparatively short time the patient is brought into the last stage. Under these circumstances the antiphlogistic plan only accelerates the fatal termination. No doubt in ordinary peritonitis bleeding may check the increase or extension of the disease; but in these cases the affection is immediately extensive and severe, and the indications are not to withdraw blood from the already enfeebled frame, but rather to relieve pain, control the peristaltic action of the bowel, and to support the strength until nature shall have completed the organization of the false membrane.

In the epidemic of 1827 the antiphlogistic method in these cases signally failed in our wards, while the exhibition of opium and wine,

<sup>1</sup> "Clinical Report of the Meath Hospital," Dublin Hospital Reports, vol. v.

or of opium in full doses, was attended by satisfactory results. More recent experience testifies largely to the truth of these observations.

Dr. Samuel Cusack, in speaking of puerperal fever, long ago bore witness to the efficacy of wine and opium in puerperal peritonitis, where the powers of life were greatly sunken, and any form of blood-letting or of depletion was inadmissible. His observations were fully confirmed by Dr. Gooch.

I would commend to your most attentive consideration the following admirable remarks by Dr. Murchison on the treatment of peritonitis in fever. He says:—<sup>1</sup>

"Although the cause of peritonitis cannot always be determined with certainty, in the great majority of instances it is perforation of the bowel. The case, though desperate, is not altogether hopeless. Opium is the only remedy to be relied on in such cases; but, to be of service, it must be given immediately and boldly. To an adult, two grains of solid opium may be given at once, followed by one grain every second or third hour, till slight stupor is induced. When the stomach is irritable, the subcutaneous injection of morphia is preferable to opium by the mouth. The doses will vary with the age and other conditions of the patient, but the amount of opium tolerated is often extraordinary; as much as sixty grains have been taken in three days with benefit. The opium is to be given alone, and not in combination with calomel, which brings down more bile into the lower bowel, and so excites peristaltic action. The object is not to produce absorption of lymph (even if the mercury had power to do this), but to paralyze the movements of the bowels, so as to prevent the escape of their contents into the peritoneum, and favour the formation of adhesions.

"Many writers have recommended the application of leeches to the abdomen on the supervention of peritonitis, but the extreme prostration, and the circumstance that the tendency is to death by asthenia, contraindicate such a practice. The pain and tension of the abdomen will also be relieved by warm fomentations, bran poultices, and turpentine stupes; but a much more certain method of subduing the inflammation is covering the abdomen with a bladder of ice, or with the ice poultice referred to under the treatment of tympanites. At the same time the patient must be kept in a state of absolute rest, and on no account raised in bed, and the ingesta ought to be liquid, and given in such small quantities at a time that they can be absorbed by the stomach. A tablespoonful of milk or of iced brandy and water may be given every hour, or every half-hour. The large quantities of food and stimulants sometimes given cannot fail, in my opinion, to be injurious."

He adds:—

"If the case does well, we must beware of interfering with the constipation induced by the opium: cases are recorded where the incautious administration of a purge appeared to break up the adhesions and produce a fresh and fatal attack of peritonitis."

HEMORRHAGE from the intestine in fever is not of very uncommon occurrence. It may sometimes be regarded as to some extent a *criti-*

<sup>1</sup> Loc. cit., page 655.



cal phenomenon, and it often produces a beneficial and curative effect, lessening the local determination and irritation. Under these conditions it should not be interfered with.

But cases are met with in which, from the amount, continuance, or recurrence of the bleeding, the patient's life is placed in jeopardy, and then we are called on to check the flow if possible.

The manner of the hemorrhage is twofold. Sometimes it consists in a *weeping* from the mucous membrane. More rarely a vessel of some size is opened by ulceration—this especially happens in the second or third week of enteric fever. Fortunately, the treatment likely to be of use is nearly the same in both cases. Rest is of paramount importance. Cold drinks and ice may be given. Turpentine, in small doses, is particularly useful where the hemorrhage is associated with much tympany. Acetate of lead and opium sometimes act well; or opium may be given in full doses if there are strong grounds for supposing that the source of the bleeding is an eroded artery. The points in favour of such a view will be the suddenness of the occurrence of the bleeding, its large amount, the advanced period of the illness, and the absence of hemorrhages in other parts of the body.

A man, of middle age, was almost convalescent from a comparatively mild enteric fever, when in the middle of the night he was seized with sudden diarrhœa. The resident clinical clerk was hastily summoned. He soon found that the motions consisted principally of blood, at first dark and tar-like, then of a more florid and arterial appearance. The quantity passing from the patient was so large that no time was to be lost. The clinical clerk accordingly at once administered a full opiate; in an hour he gave a grain of opium with acetate of lead, and he repeated this dose every two hours until the patient had taken 7 or 8 grains of crude opium. The hemorrhage was soon checked, and the curious thing is that the patient showed the same remarkable tolerance of the opium which we have already spoken of in connection with peritonitis. He made a good and rapid recovery. Of course the utmost caution should be employed in these cases, and the effect of every dose should be attentively watched.

Among other remedies in this complication may be mentioned tannin, tincture of the perchloride of iron, and ergot. The last is highly commended by such authorities as Dr. Murchison, and Dr. J. B. Russell, of Glasgow. The former has used it subcutaneously with excellent effect.

## LECTURE XXXII.

TREATMENT OF THE NERVOUS SECONDARY SYMPTOMS OF FEVER—HEADACHE—Cold lotions, warm fomentations, moderate leeching, shaving the head, cold affusion, ice—DELIRIUM—Treatment depends on (1) period of case, (2) presence of hyperæmia of the brain, or otherwise—Ice, leeches, shaving the head, cold affusion in *active* delirium—Nourishment and wine in *passive* or anæmic delirium—SLEEPLESSNESS—Moderate leeching, cold affusion, ice—Turpentine in constipation and tympany—Catheterism in distended bladder—Sedatives—Opium, tartar emetic and opium, hyoscyamus, bromide of potassium, chloral, wine—CONVULSIONS—Most formidable in fever—Uræmic, due to (1) *retention* of urine: catheterism; (2) *suppression* of urine: dry-cupping and poulticing over kidneys, diluents, diuretics, aperient enemata, promotion of action of the skin.

AMONG the earliest, most frequent, and often most prominent of the nervous symptoms in fever is HEADACHE. At first it is seldom very violent, and no important or vigorous measures are required for its relief at this period. It is generally a symptom which subsides early in the case, and is rarely indicative of anything beyond functional derangement, or incipient or progressive affection of the brain. The intensity of the symptom is more marked in typhus than in typhoid; but in neither form of fever is it often accompanied by indications of active determination to the head, and in both it commonly subsides without any interference beyond the application of a cold lotion, such as vinegar and water, or chloride of ammonium (sal ammoniac) and water.

But should it be severe, and attended with more or less heat of the head, you may employ with advantage warm stuping of the forehead and temples. These warm fomentations may be repeated according to circumstances, and you have often seen the marked relief afforded by them. Should this measure fail, the application of two or three small leeches to the temples or behind the ears will be followed by relief—a relief out of proportion to the quantity of blood taken. You will, however, remember that the pain generally subsides by itself after the lapse of a few days. Yet it sometimes continues, and resists even the treatment I have suggested; and then, when it is severe and attended with heat and fulness of the head, you may adopt more active measures. You may apply a larger number of leeches in relays for two or three times. It used to be the practice in this city, when the pain was obstinate, with heat of the head, sleeplessness, and