

the effusion of blood, or the escape of fluid from the cyst into the peritoneum, either of which is a most dangerous complication of the difficulties inseparable from any method of operating, can with no certainty be avoided in the minor, but may assuredly be remedied if they should occur in the major operation. Adhesions too can be divided, the parts can be cleansed and arteries tied with facility if necessary, and the operator's mind freed from doubt as to the state of the internal parts, before he carefully closes the wound. These are circumstances which the experienced operator can appreciate, and if he should not be blinded by an undue apprehension of peritoneal inflammation, he will be sure to estimate highly such palpable advantages." After relieving his patient from the symptoms of strictured intestine, which had been somewhat troublesome, he remarks that it was not so much peritoneal inflammation as suffering in the viscera of the abdomen, more particularly the intestines, which is to be apprehended as a consequence of free incision for the removal of diseased ovarium. In conclusion he says, "let me not be supposed for a moment to recommend this operation as one to be undertaken in any but well-selected cases to which it is adapted; still less let me be supposed to advise that any surgeon should engage in its performance who has not, by habits of operating—yet more by long habits of careful observation and treatment of disease generally—and by very considerate and studious examination of the nature and connections of this particular disease, and the tendencies of the viscera, which may be involved in mischief by an ill-judged operation, or ill-conducted after-treatment—qualified himself to cope with difficulties from which it is unreasonable to expect an exemption."

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ART. IV.—*Remarks on Wounds received in Dissection.* Read before the Boston Society for Medical Improvement, July 24, 1843. By GEORGE HAYWARD, M. D.

INJURIES received in dissection, it is well known, are often followed by severe and sometimes by fatal consequences. The subject is an important one on every account, especially as professional men are not agreed as to the cause of the trouble, or the best mode of treating it. It should be recollected, too, that all who practise the profession of the healing art are exposed to these injuries, as no certain mode has yet been found of guarding against them. In the hope of drawing your attention to the subject, rather than in the belief that I can throw any new light upon it, I shall offer a few remarks, as the result of my own observation, and, I may add, personal experience.

The effects arising from such injuries have been attributed by some ex-

clusively to the irritable state of the patient's system; in other words, they have regarded these cases as cases of morbid irritation; while others have supposed, that they were entirely the consequence of the absorption of some deleterious matter. Neither of these opinions, I think, can be adopted to the full extent. It seems to me that some of these cases, and perhaps a large proportion of them, are to be attributed to irritation alone; others again are the result of the absorption of some noxious fluid; while there is a third class, that arise from the combined influence of both these causes.

That irritation is capable of producing effects as alarming as any that are witnessed from injuries caused by dissection is well known to those whose attention has been called to this subject. Tetanus is perhaps as good an example as can be adduced. Here is a disease, almost uniformly fatal, arising for the most part from a trivial wound, inflicted oftentimes by a clean instrument, and where there can be no pretence for supposing that anything poisonous has been introduced into the system. The alarming effects which arise in such cases must be attributed in great measure to the morbid irritability of the patient. This state may be congenital, but it is most often acquired, and is induced usually by excess in the mode of living, and especially by the immoderate use of alcoholic drinks. Hence tetanus is rarely met with in females or children, but its subjects, as far as my observation extends, have been in a great majority of cases persons of intemperate habits of life.

There are various other instances of severe effects following slight injuries, that might be adduced. Some of the most formidable cases of paronychia, that have ever come under my notice, have arisen from slight wounds of the hand, caused by needles or pins. Deep seated suppuration under the fascia, or in the sheath of the flexor tendons, going the whole extent of the forearm, and terminating occasionally in sloughing, which impairs for life the usefulness of the limb, is not an unfrequent consequence of trifling accidents of this nature. No one, I think, will pretend to attribute these ill consequences to any thing but the state of the patient's system. It is not possible that any poison has been introduced into it, and similar and more severe wounds are received daily by numberless individuals, without suffering or inconvenience.

Besides these general considerations, there are some circumstances that may be named that render it probable that many of the cases of injury arising from dissection are wholly independent of absorption, and are rather attributable to the state of the patient's system at the time of the injury. Among these may be mentioned the fact, that students engaged in dissection are rarely troubled in this way in the beginning of the season, though they are much more likely then to wound themselves, from awkwardness and inexperience, than at a later period. But when the health becomes impaired from fatigue, exposure to bad air, want of proper exercise, or any other cause, a very slight wound is often followed by alarming symptoms.

It should also be noticed that severe cases sometimes occur when there is nothing in the nature of the disease, or the part of the body that is examined, or the character of the wound itself, that is in any way likely to produce trouble. One of the members of this society, several years ago, suffered excessively from a slight scratch made by the cranium of a child that had died of hydrocephalus. Extensive and deep-seated suppuration under the fascia of the hand followed the accident, and the constitutional symptoms for a time were of an alarming character. There was certainly nothing in the history of this case to justify the opinion that any morbid matter had been absorbed. I have known two or three other cases as striking as this, and in all of them the patients' systems were in that feeble and irritable state that seems well calculated to invite disease.

It may be observed, too, that the readiness with which the symptoms sometimes yield to appropriate remedies, render it probable that in such cases at least, irritation rather than absorption is the cause of the trouble. A blister encircling the forearm often affords considerable relief, even though it is not applied till the veins and absorbents are red and inflamed along the whole extent of the limb to the axilla. Now this effect would not be likely to be produced by such a remedy, if any noxious matter had been conveyed into the circulation.

Though I have attempted to show that some of the cases of the injury of which I have been speaking, are probably the result of the irritable state of the patient's system, I do not pretend but that others may be attributed to the absorption of some noxious matter. Of this I think there can be no doubt. There are two facts that render it almost certain; one of these is, that persons in most perfect health are occasionally affected in this way; and the other is the well-known one, that these accidents are most often met with in examining the bodies of those that have died of some particular disease, as peritonitis, and especially puerperal peritonitis. It cannot, I think, be doubted, that this affection is more severe and alarming, and more likely to terminate in death, when it is the result of these two causes; that is, when absorption takes place at the time the patient is in an irritable state, or, in other words, when his system is predisposed to disease.

During the last year more persons than usual were affected in this way in our vicinity, and there were three or four fatal cases. To what this may be attributed, it is not easy to say. Erysipelas prevailed to a greater extent and in a more severe form than usual, and there was probably a greater number of fatal cases of puerperal peritonitis than in ordinary years. These two circumstances may perhaps aid us in attempting to account for the increased number of these accidents. The system was predisposed to erysipelatous inflammation, and it came on from slight causes; and there was also, no doubt, a greater number of post-mortem examinations of the bodies of those who died of peritonitis than usually occurs in the same length of time.

There is great diversity, as far as I have seen, in the symptoms of this affection. Sometimes, and not unfrequently, they are wholly local, confined to the arm, hand, or even the finger that was injured. At other times the whole system is affected, either with or without much local trouble. It is obvious, therefore, that the same mode of treatment is not adapted to all cases, and this may in some measure account for the fact which I noticed in the beginning of this paper; and that is, that physicians were not perfectly agreed as to the curative methods.

It is not my intention now, if I had the materials, to write a full article on this subject. To do this as it should be done, would require the individual who attempts it to have seen a far greater number of cases than have fallen under my observation. But as I suffered severely from this cause during the last year, I shall, at the hazard of being charged with egotism, give you a short account of my own case.

I lost a patient, a child of six or seven years of age, with symptoms of peritonitis, on the 2d of February, 1843. On the following day, at twelve o'clock, the body was examined by Mr. Thayer, the house physician of the Massachusetts Hospital, in presence of my friend Dr. J. B. S. Jackson and myself. While the examination was going on, I pricked the end of the forefinger of my right hand with several needles that were sticking in a ball of thread. The punctures were very slight, giving no pain or uneasiness, and hardly attracting any notice at the time. I have no recollection of having touched the body of the child at all; yet there is very little doubt that I did apply the end of that finger to the mucous coat of the intestine, on a part, too, which was supposed to be slightly ulcerated. I felt no inconvenience during the day or evening, and went to bed at twelve o'clock as well as I had been for some weeks. For a month previous I had not enjoyed my usual health; I was easily fatigued, and had but little appetite, and frequently went without my dinner. This is not an unusual thing with me, and I attributed it to having a little more to do than I could accomplish with ease. For three months, in addition to my private business, I had been lecturing and attending the surgical department of the hospital. I mention this to show that my system was in a condition to be easily affected.

I awoke at two o'clock in the morning, with intense pain in the end of my finger. It was of a peculiar kind; there was a feeling of crowding and distension of a most distressing character, and such as I never experienced before. It was confined to the last joint of the finger. As I could not sleep, I arose at six o'clock, took my breakfast but a cup of coffee, and the only way in which I could get any relief was to keep my finger immersed in a tumbler of cold water while I was at table. On examining the finger, I found it swollen, and the last joint, to which the pain was still confined, was almost of a purple colour. It was hot, and throbbled violently.

On my way to the hospital, I visited one patient, and after seeing all the surgical patients there, as the pain in the finger had increased very much, I

had several leeches applied. Though a very considerable amount of blood was drawn, I obtained no relief; the finger was even more painful than before, and I then felt for the first time the constitutional symptoms; rigors, pain in the head and back, and nausea. I however left the hospital, and continued to visit patients till half past twelve o'clock, feeling, I have no doubt, and looking, as I have since been told by several of them, much sicker than any for whom I prescribed that day. I then went home, undressed and went to bed, which I was unable to leave for a moment for four days. I can truly say, that though I have often been sick, I never felt so sick before in my life. I had all the symptoms of sea sickness, with a great degree of pain superadded. The arm at this time was painful and swollen to the axilla; the veins and absorbents were also red and inflamed; and what seemed to me to be singular was, that those on the back of the arm were more affected than those on the front. One of the most distressing symptoms at this time was the nausea; I could not raise my head from the pillow without fainting. I had an extreme disgust for every kind of food, though the thirst was intense.

I had the arm bathed frequently with laudanum, and cloths wet with the same applied, so as to keep the parts constantly wet. I also had a blister put on just below the elbow, and in the course of the afternoon I took fifteen or twenty grains of the compound rhubarb pill. At about six o'clock I got a little sleep, which lasted perhaps for half an hour, when I awoke, still in great pain. The thirst was unabated, and a little iced water was the only thing that was in any degree tolerable. In the course of that night I took two ounces of paregoric and eight grains of opium, without procuring more than an hour's sleep, and this was not continuous. The suffering, however, was very much lessened for a time by the opiates. On the following day I was visited by Dr. Warren. As the cathartic taken the day before had not operated, he directed the compound infusion of senna with Epsom salts, which produced ten or twelve dejections. He also advised the continuance of laudanum to the arm, and to take McMunn's elixir of opium at night. The pulse at this time was about 100, neither full nor strong; the arm less painful than on the preceding day, but the hand quite as much so. The whole finger, with the nail, was now of a dark purple, the cuticle was raised up from the cutis, and a bloody serum, almost black, was effused under it. The thirst was unabated, and the only thing which I took for three days, besides the opiate, was the Seltzer water, and this I drank in small quantities every fifteen or twenty minutes, day and night.

I took the elixir of opium as directed, 140 drops at a dose, to be repeated in two hours if sleep was not procured; I took three doses in this way with some relief, but slept but little during the night. On the following day I was restless and uneasy, with headache, nausea, dry skin, furred tongue and parched mouth. Dr. W. ordered an emetic of the powder of ipecac., and, after its operation, leeches to the arm. I vomited very freely several times,

and the leeches drew well; at night I felt somewhat relieved, but the pain in the hand and the back was too severe to allow me to sleep without an opiate. I took that night and the two following nights an ounce and a half of the syrup of poppies with a grain and a half of the sulphate of morphia each night, divided into five doses taken at intervals of two hours. This produced almost complete relief, but no quiet or continuous sleep. The comfort that I got from it cannot be described or imagined by any one who has not taken it under similar circumstances. I had none of the itching of the skin, the distressing headache and uncomfortable restlessness afterwards that so often follow as the effects of large doses of opium. The only inconvenience that I experienced arose from the profuse sweating, which seemed to be the effect of the opiate, as it ceased when this was left off.

On the fourth day I felt much better, I had but little suffering except from the hand and arm, and these gave me far less pain than in any preceding day since I had been sick. The finger was nearly black, almost four times as large as the other. The cuticle had risen up in a large vesicle, and the nail also had become detached, held only by cellular membrane. Free incisions were made through the cuticle, and a considerable quantity of dark bloody serum was discharged. These incisions gave me no pain whatever, the part cut was entirely insensible. There was no pus, nor was there any thing about the finger that looked like healthy inflammation. The true skin, when the cuticle separated from it, was found to be of a dark livid colour, almost black, and gangrenous to a small extent in two places. I felt so much better at this time, that I began to think my suffering was nearly over, though I feared I might lose the whole or a part of the finger. I should have observed, also, that when the cuticle was removed four or five punctures could be seen on the end of the finger, and were, no doubt, those made by the needles.

It was not my good fortune, however, to escape without additional pain. On the morning of the fifth day I was seized with a violent pain, coming on somewhat suddenly, in the palm of the hand, just at the point where the forefinger is united to the metacarpus. The part began immediately to swell and became exquisitely tender. Leeches were applied to it, and the whole of the back of the forearm and hand was covered with a blister. These means afforded me considerable relief, and three days from the attack a small abscess was opened on the back of the hand, from which was discharged one or two drachms of tolerably healthy pus. From this time I steadily improved. The sloughs were thrown off from the finger, and the nail separated, the swelling and tenderness of the hand and arm gradually subsided, though the stiffness and loss of power continued for some time longer. The entire motion of all the fingers I have not yet recovered, and the sensibility of the end of the forefinger is far from being perfect. I feel, however, that I am still gaining in this particular, and my hand now for all practical purposes is nearly as useful as before the accident.

My recovery was rapid, so that I was able to attend to business in a month from the time I was taken. For a fortnight of my confinement I lived entirely on liquids, and for nearly a month I took no heating or stimulating food, my diet consisting of bread and milk, thin broth and beef-tea. I am satisfied that more stimulants would have been injurious, at the same time I am convinced, from what I have seen in similar cases, that more active depletion by general blood-letting and powerful cathartics would have produced extreme if not remediless prostration.

One of the most constant symptoms in affections of this kind is the watchfulness, showing very clearly to my mind a high degree of cerebral disturbance. Opiates are almost always required and uniformly borne well, at the same time they do not commonly produce sleep even when administered in large doses. They allay, however, the irritability of the system and serve to soothe and tranquillize the patient. A medical student who was affected the winter before last from a wound made in dissection, took every night for several weeks 400 drops of laudanum, and this large quantity only procured him a moderate amount of sleep. The truth seems to be, that these cases have a very close analogy, if they are not identical, with those of morbid irritation, and are but managed by the same course of treatment. The topical remedies must vary in different cases, but in every instance where there is a local affection of any consequence, I regard a blister applied to the arm as of the utmost importance. I can truly say that I had no severe pain in any part of my limb above where the blister was applied after it had drawn, though it had pained me severely before up to the axilla. I have heard several other patients make the same remark. Leeches and bathing with laudanum, where there is much pain or inflammation, often afford great relief, more, I think, by far, than can be obtained by poultices and fomentations, though these are often useful at a late period.

Among the general remedies, emetics and cathartics hold an important place, where there is much constitutional disturbance. These should be administered in the beginning, but it is not necessary that they should be of a very powerful kind; in fact the patients that I have seen with this affection do not bear very active medicines well. These are to be followed with laxatives, mild diuretics, liquid diet and opiates according to circumstances. I believe that patients are more likely to do well under this course, than under one of a more severe and active character. It is important, however, to begin early; the fatal result in most of the cases of which I have had any knowledge may be attributed, in my opinion, to the patients having too long delayed the use of remedies. All the cases that have come under my care, I have seen at an early period, and I have never yet seen one that has not terminated favourably.

I have thus thrown together very hastily the principal circumstances of my own case, and I leave it to others to decide whether the symptoms were to be attributed to irritation or absorption, or to the combined influence of the two.