

THE MANAGEMENT OF CASES AFTER ABDOMINAL
OPERATIONS.

BY

J. W. HICKMAN, M.D.,
Tacoma, Wash.

EVERY surgeon no doubt has felt, after an abdominal operation is completed and the proper dressings applied, that his work is in, so to speak, and that there is very little that he will henceforth be able to do that will materially influence the destiny of his patient.

While this is largely true, there will occasionally arise exigencies within the first three or four days that will require the exercise of sound judgment, and, unless properly met, may cast the die against the patient. Of course it is not disputed that the simple cases will get well with the most ordinary care ; but take a case where, even with the most rapid and skilful work, the patient has been on the table for a couple of hours or more, or where there have been extensive and dense adhesions, or where during the operation pus has been poured into the abdominal cavity, or where there has been injury to the gut or other viscera ; or take a case where operation has become necessary amid the exhaustion of septic processes—and the after-care may involve questions not capable of being properly settled by any except the highest kind of surgical skill. This conclusion has been forced upon me by an extensive observation of cases in the hands of others and by a not inconsiderable number in my own experience.

It must be understood at the outset that there are anatomical and physiological reasons why these cases must be managed upon different lines from other operative cases. To cite an isolated instance : The peritoneum is in point of fact a large lymph space, and, like all lymph spaces, large and small, has a wonderful absorbing power. So great is this power that the products of an extrauterine conception have, in favorable instances, been digested and absorbed ; and very frequently has it been observed in operations done for the relief of this condition, where it has been found impossible to remove the placenta, that it has been removed by this function of the peritoneal sur-

faces until not a remnant of it is left. To enumerate in detail the peculiarities of this cavity in structure and function would carry me far outside the scope of this paper ; therefore I must assume their existence. Nor is it pretended that there can be laid down any hard-and-fast rules in which we may be governed in the after-treatment of these cases in this or that complication. It must be understood that they must be managed upon principles based not alone upon knowledge of the structure and function of this part of the economy, but upon the causative factor in the complication as well.

I shall now invite your attention to a few points that are likely to demand attention within the first three or four days.

It is well in cases of abdominal section to apply a binder that shall extend from the ribs nearly to the knees. This will serve the ordinary uses of the appliance and will contribute something toward the more complete immobilization of the abdominal muscles. For how shall you immobilize these muscles if you do not restrain the movements of the lower limbs ?

Then, again, the patient should be moved from the table to the stretcher and from the stretcher to the bed with the limbs extended, heels, knees, buttocks, and head being on the same plane, and not, as we so often see, be taken by the legs by one nurse and by the shoulders by another and thrown about as you might handle a sack of grain. There might some grave reasons be given for this care. It may be thought to be an unimportant matter, but it is just one of the many little things that contribute very much to that aggregate which we call the result.

The next thing to be looked after is that queer complexus of phenomena known vaguely as shock. Its pathology is not known, nor can its post-mortem changes be recognized. It may be said to be a depression of vital activity manifested chiefly through the nervous system. Every function of the economy is below par. Its duration may be measured by hours or days. It is marked by a condition so nearly resembling that induced by hemorrhage that we may be unable to discriminate the difference prior to that condition known as reaction. Its proper management consists in stimulating the central nervous system. The first of these measures is heat. Upon being placed in bed the patient should be surrounded with hot-water bottles, which should have been put there at least thirty minutes ahead of the patient. These bottles should be encased in flannel, not put in bare or in old woollen stockings full of holes—

another one of the little things that you will think worth looking after when you have seen a few burns, as I had the misfortune to see a few years ago in a case I very vividly remember and shall never forget. The next thing in point of importance in severe shock is to inject subcutaneously the one-twentieth of a grain of strychnine and to repeat every twenty or thirty minutes, if need be, for three or four doses or until the circulation is good. Strychnine, in the quantity named, is the most reliable nerve and circulatory stimulant known, and indeed the only one that can be depended upon. It must, permit me to repeat, be given in positive quantity; the one-hundredth or even the one fiftieth of a grain is hardly of use at all, except to make the administrator feel that he is doing something. In conditions of extreme shock there is a certain immunity to the toxic manifestation of strychnine. So important is its use in large quantity that it is better to run some risk of a toxic convulsion than the much-talked-of heart failure. If this condition last for twenty-four hours, nutrient and stimulating enemas deservedly hold an important place in the treatment.

Thirst following an abdominal operation is an almost constant feature and one that cannot always be managed to the satisfaction of the patient. We do not know its cause. It has recently been urged in some quarters that thirst may be largely obviated by having the patient drink large quantities of fluids for a couple of days prior to the operation. As to the efficacy of this measure I cannot speak from experience. If the patient do not vomit, it will be well, after the first three hours, to give a teaspoonful of cold water every hour or two. After six or eight hours a teaspoonful of warm water may be given every fifteen or thirty minutes, and seems to allay the thirst. If, however, vomiting should occur, absolutely nothing should be given by the mouth until two hours have passed. I do not like ice. It at first allays thirst, but the demand for it becomes almost constant after it is once given; more cold water is taken into the stomach than can be absorbed, and vomiting occurs. Moreover, the patient is liable, after a couple of days, to have a dry, sore mouth as a result. In cases where it is unwise to give water on account of vomiting, an enema of three or four ounces of hot water may be used every couple of hours and will relieve the thirst. In addition the patient may be permitted to hold in her mouth, for a few moments at a time, some warm water, without swallowing it.

Vomiting as a complication may be due to the anesthetic,

to shock, to sepsis, or to obstruction—I of course refer to obstruction due to paresis of the gut, and which may be as complete as that of volvulus itself. It must therefore be axiomatic that there can be no single therapeutic measure efficacious in all forms of vomiting, and indeed, as a matter of practical therapeutics, we well know there are cases of vomiting in which we are unable to afford a particle of relief. One thing we do know is that after flatus is expelled from the bowel the vomiting generally ceases; if it do not there is probably a causative factor lying without the lines of safety. For the vomiting due to the anesthetic the best treatment I know must have been applied in advance, and it is twofold—namely, keep the patient on the table as short a time as possible and give the smallest possible quantity of anesthetic. After the mischief is done the best means at our disposal amount to very little. They are, to keep the stomach empty and the patient as quiet as possible, with an abundant supply of fresh air in the room. It has seemed to me that a small quantity of morphine hypodermatically has been of use. I mean morphine, and not morphine and atropine now so inseparably given; for atropine should under no circumstances be given after an abdominal operation, for the simple reason that it inhibits the activity of one of the most important excretory organs. I may here interpolate the statement that the activity of the skin contributes more to a comfortable recovery than is generally thought. This is a point that should be impressed upon nurses. The vomiting due to the other causes named must be handled by dealing with the condition giving rise to it; such vomiting is never benefited by the indiscriminate giving of small doses of calomel, warm water, lime water, small doses of ipecac, or any of the host of agents so ordinarily used.

Where gas has been expelled from the bowel the surgeon is more relieved than the patient. This usually occurs in from twenty to thirty hours, and indicates that the lumen of the tube is clear and that its muscular apparatus is again properly under the influence of its nervous supply. The patient will now be able to retain and assimilate some nourishment. We may also now feel at liberty to administer a cathartic, if it be thought desirable. Prior to the passage of gas I have seen but one result from the giving of a laxative—namely, reverse peristalsis with all of its discomfort. Just as soon, however, as gas has been expelled, particularly if the temperature have

reached 100° or the pulse be accelerated, I think a purgative, preferably a saline, should be administered. And standing at the head of the list from which we may select is sulphate of magnesia in teaspoonful doses in black coffee every hour. In its action peristalsis is perhaps less stimulated than by any other agent of its class. Calomel in frequently repeated small doses is often given. Its greatest advantage is that it is easy to take; its disadvantages are that it is slow, that it greatly stimulates peristalsis, and that it does not deplete the mucous membrane of the intestinal tract. The latter point is the great reason why a saline is the most efficient cathartic in these cases. A large, watery passage is the result, and most of the water comes from the vascular supply of the intestinal mucous membrane; in turn the absorbing power of the peritoneal cavity is increased, and any accumulated fluids are taken up and gotten rid of. After the bowels have properly acted the patient's condition usually improves and the management becomes less responsible.

Often the accumulation of gas in the bowel will occasion a good deal of distress to the patient and a good deal of anxiety to the surgeon. A prominent cause of this tympany is the imperfect emptying of the bowel prior to operation. It may come as the result of improper nourishment; for instance, I once saw the stomach and upper bowel enormously distended from drinking large quantities of cold tea. This, I may say, was in the case of a prominent physician of this city. The suffering owing to the accumulation of gas, apparently due to this cause, was very considerable. Accumulation of gas may come from sepsis; it is said it often announces the beginning of peritonitis. For purposes of practical treatment, however, these cases may be divided into two classes. Both are marked by distension. In one this is all and the gut seems to be quiet; it makes no effort at expulsion; the sympathetic ganglia seem to be exhausted. In the other class the distension is also marked, but there is more or less active peristalsis; we hear gurgling and rumbling in the abdomen, and the patient complains of colicky pains; there seems to be a point somewhere beyond which it is not possible for the gut to force the gas; there may be vomiting, and I have seen stercoraceous vomiting even in patients who subsequently made a good recovery. Now, the treatment very evidently should not be the same in both kinds of distension. In the first we require a stimulant, such as five or six grains of quinine in one-half ounce of whiskey every two

or three hours for three or four doses. In the latter nothing is so efficient as a hypodermatic injection of morphine together with a turpentine enema. In any case of distension the rectal tube may be tried, but I have never seen much good come of its use; it has, however, come to be fashionable and is a time-honored appliance. I should not fail to note that the form of distension marked by excited peristalsis may become one of simple quiet distension by pure exhaustion, if the proper remedial agents be not applied or if they fail to give relief. It seems to me that the beneficial effects of opium are not appreciated in enteric complications as they deserve to be. In days gone by it is likely that opium was too much depended upon; it is possible that it is too sparingly given to-day. It is quite able to give the vital forces a needed rest; if there be absorption of septic matter it will temporarily stop it. I remember a case in point that I beg leave to mention briefly. It was a pus case, and I should have used a drain and did not. On the second day the temperature had shot up and the pulse was 150 and jerky. The expression of the face was of that kind which never betokens good. She had vomited frequently and the vomited matter was now dark brown. I injected some morphine beneath the skin, and, after a few hours' rest, separated the lower part of my incision and evacuated several ounces of stinking pus, washed out, and my patient recovered. Had I not used the morphine I am convinced my mortality list would have had another addition to its ranks. One word as to the management of drains. Drainage may be accomplished by gauze or by tubes, or by both. If they are used the dressings must be frequently changed, and this work must be approached with as much care and with as precise aseptic precautions as in the original operation. It is not necessary to infect a drainage tube under any circumstances, so this bugbear might as well be eliminated. The tube should be dressed every three or four hours, and it should be arranged by rubber dam so that its discharge may not soak the main dressing. The time for its removal cannot be measured by hours or by days. As soon as the discharge becomes a sweet, simple serum the tube should be withdrawn and the edges of the incision approximated; this is the only guide to the removal of a tube. If the discharge has not become serous by forty-eight hours there is probably some infection and you may soon look for a discharge of pus. If this occurs the tube should be left in for three or four days and the cavity be treated as any other abscess. If

the drainage be gauze, some of it should be removed within twenty-four hours, and perhaps all of it by forty-eight hours, even if we have to put some in its place; for gauze will become fast by growth of tissues through it. I may add, however, that the ideal drainage is through Douglas' cul-de-sac into the vagina, or, in an infected case, this in connection with abdominal drainage. In either case its subsequent management must be the same.

If possible the patient should be induced to pass urine voluntarily; if impossible the catheter should be passed every eight hours over as short a time as possible. The last thing before removing the patient from the table should be the passage of this instrument.

In an uncomplicated case the dressings should not be disturbed for a week or ten days.

Every patient having undergone an abdominal section should wear a well-fitting abdominal binder for at least a year.