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BY ✓  
GEORGE W. GAY, M. D.

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## THE MANAGEMENT OF PATIENTS DURING CAPITAL OPERATIONS.<sup>1</sup>

BY GEORGE W. GAY, M. D.

THE object of this paper is to call attention to the management of patients while they are undergoing severe and critical operations. As it is oftentimes the little things which tell in these cases, and which go far toward deciding the result, we shall dwell especially upon their importance, and hope not to be thought trivial in so doing.

A brief narration of three cases which have lately been under our care at the Boston City Hospital will illustrate our ideas upon the subject much better than would any abstract remarks.

CASE I. While walking upon the sidewalk, March 17, 1883, Mr. S., aged fifty-two years, was thrown into the air by an explosion of ignited gas in an adjacent cellar, and fell into the excavation amidst paving stones, bricks, and other débris. Having been brought to the hospital within an hour of the accident, he was found to have sustained a compound comminuted fracture of the left tibia into the knee-joint. The leg was enormously swollen, tense, blue, and cold, and there was no pulsation in the tibial arteries. Above the knee was a large, ragged wound extending deeply into the bruised tissues of the thigh.

The patient had evidently lost considerable blood from subcutaneous hæmorrhage, and he was in a partial collapse. He was conscious, but restless; pulse weak and rapid; skin pale and cold.

<sup>1</sup> Read before the Boston Society for Medical Improvement, June 11, 1883.

Nothing whatever was given by the mouth, as a pretty extensive accident-room experience has proved to us that food and stimulants poured into the stomach of a person while in collapse do no good, but on the contrary sooner or later produce vomiting, and thereby increase the prostration. A stimulant dose of morphine (one eighth of a grain) was given subcutaneously, and warm injections of brandy and water were given by the rectum. He was surrounded with heaters, covered with blankets and a rubber sheet, and kept as quiet as possible.

In an hour or two the patient had rallied sufficiently in our opinion to undergo a rapid amputation of the thigh. Everything being in readiness a little ether was given, and at the earliest possible moment the limb was quickly removed by transfixion at the junction of the lower and middle thirds. As soon as the bone was divided the anæsthetic was taken away, and no more was given. The result was that the patient was unconscious but a few moments, and regained his senses long before the vessels were secured and the stump was dressed. There was very little additional shock resulting from the operation, and the vomiting was unimportant.

The treatment pursued before the operation was continued for several hours after it, when small quantities of milk punch were given by the stomach and retained, and the question of nourishment gave us no more trouble. Omitting all details of the convalescence, suffice it to say that the patient made a good recovery.

CASE II. Thomas G., an expressman, twenty-two years of age, was brought to the hospital January 11, 1883, suffering from a large sarcomatous tumor of the left thigh. The disease was of six months' duration, and began as a small, tender bunch over the internal condyle of the femur.

When first seen by us it involved the lower half of the thigh, and was discharging large quantities of a dirty, sanious fluid. The glands below Poupart's liga-

ment were slightly enlarged, but the abdominal cavity was apparently free from disease.

The patient was in a state of extreme exhaustion. Pulse 150. Temperature 103° F. Pale and emaciated, but there was no cough, vomiting, nor diarrhœa. It having been explained to him that an amputation, though attended with danger, was the only measure that promised relief to his suffering or could prolong his life, he requested that it should be done. For a few days efforts were made to improve his condition by means of liquid food, stimulants, tincture of digitalis, and tincture of nux vomica.

When ready for operation he was brought from the ward in his own bed, surrounded by heaters and covered with blankets and a rubber sheet. A very little ether having been given he was quickly transferred to the operating table, still covered up warmly, and the thigh was amputated as rapidly as possible by the circular method at the middle third. The ether was at once stopped, not over three ounces having been used, and in three minutes the patient was conscious. There was almost no shock from the operation, no vomiting, and in twenty-four hours the temperature was normal, and the patient "felt better than he had for months."

During convalescence he was free from pain, ate heartily, and grew fat. The wound healed kindly, with the exception of a small spot over the end of the femur, which became pale and œdematous, and looked like the original disease. The glands in the groin also began to enlarge.

Five weeks after the amputation a second operation was done for the purpose of removing the remainder of the femur. A long incision was made on the outer surface of the stump, the head of the femur disarticulated, and the bone carefully dissected out. The operation was necessarily of considerable length, the hæmorrhage was pretty free, and the shock was marked.

The contrast in the effect upon the patient of the

two operations was very characteristic. In the first instance, although he was in a miserable condition, yet after a severe but quick operation he rallied almost instantly, while in the second case he was in a comparatively good condition, and yet after a prolonged operation the prostration was very severe. He finally rallied however, and got nearly well, when he was seized with pleuro-pneumonia, and died in a week.

CASE III. R. H., conductor, about twenty-seven years of age, was run over by a horse-car January 19, 1883, and received a compound fracture of the left tibia and fibula at the lower part of the middle third. The line of fracture was very oblique, and the tissues were considerably bruised.

Treatment consisted in placing the limb in a "plaster posterior" splint, and applying compound tincture of benzoïn under carbolized gauze. Profuse suppuration and necrosis followed, and after several weeks the fragments were carefully adjusted and wired together.

In spite of all our efforts the patient gradually failed, and all hopes of saving the limb were abandoned. The pulse was rapid and feeble, the temperature was high; he was pale and emaciated, and suffered from chills, sweats, and great irritability of the nervous system, being delirious at night; his appetite was poor, but there was no vomiting nor diarrhœa.

It was evident that an amputation of the leg was the only means which could save his life, but it was the general opinion of the surgeons who saw him in consultation that he would not survive the operation over thirty-six hours.

A rapid amputation was completed March 18th under the same precautions as were used in the last case. The utmost care was taken to prevent shock and exhaustion by saving as much time, blood, and animal heat as possible. The result was all that could have been desired. The patient rallied well from the anæsthetic a few moments after the leg was removed, and his temperature fell five degrees inside of twenty-

four hours. Convalescence was rapid, and the stump was healed in a fortnight.

The idea pretty generally prevails that in these days of anæsthetics time is of little or no consequence in doing capital operations. I do not accept this view of the matter. Experience has taught me that in the class of cases under consideration the more quickly the operation is completed, and the earlier the patient is allowed to rally from the anæsthetic, the less will be the subsequent shock and exhaustion. This fact is particularly noticeable in children, in whom a temporary collapse is not uncommon after a severe or a prolonged operation. There can be no doubt that a long operation is debilitating to the nervous system of any one, even when it is done without pain or without the loss of much blood.

It is claimed by some that as sulphuric ether is a powerful stimulant when injected under the skin, its inhalation is therefore beneficial in cases of great prostration requiring an operation. While the primary effects of this agent when inhaled are stimulating, the ultimate result has seemed to us to be depressing, and especially so in those persons prostrated by injury or disease.

Usually the pain experienced by patients in the later stages of an operation is not detrimental. It is momentary, and soon forgotten, as they are still somewhat dazed by the anæsthetic. An opiate given previous to the operation also tends to allay suffering and produce quiet. Moreover, the pain seems to be less severe toward the close of an operation than it is at the commencement. Every surgeon must have noticed this fact in connection with operations about the face, when it is oftentimes not practicable to keep the person completely under the anæsthetic. Fear and dread are to a great degree absent when an operation is well under way.

These facts have led me to remove the anæsthetic at a much earlier stage in many operations than is the general custom, and I think with beneficial results to the patients.

In concluding we would urge that special attention be paid to the following particulars while doing critical or capital operations:—

If shock or collapse be present put nothing into the stomach, but stimulate and nourish by the skin and rectum.

Take extra pains to keep the patient warm by means of heaters, blankets, and a rubber sheet.

Disturb him as little as possible with examinations, moving, changing of clothes, or dressings, etc.

Use the least possible quantity of the anæsthetic, and allow the patient to rally early, depending upon opiates to control subsequent pain and inquietude.

Finish the operation as quickly as is compatible with its proper performance.

Get the patient into a warmed bed as soon as possible, and without any exposure to cold.

Preserve the utmost quiet, and avoid doing too much for the patient until fair reaction has taken place.

By observing these precautions we are confident that in more than one instance recovery has taken place, in which by neglecting them the result would have been fatal.

