

wounds which we are most often called to treat are those inflicted with murderous or suicidal intent. Wounds inflicted with the latter motive are in most instances of a transverse character, while those inflicted with the former motive are likely to be of varying direction. In the treatment of these injuries, too much care cannot be exercised in, first, the ligation of bleeding vessels; second, in the careful and thorough approximation of the cut surfaces; and third, perfect fixation so far as this is possible. The silk or animal ligature may be used for ligating or suturing purposes.

When there is a transverse severance of the trachea (especially when the severance is complete) several sutures should be placed in such a manner that the suture will be supported by a ring of cartilage above and below; for this purpose the animal ligature should be used, and the ends cut close; the other sutures used in the approximation of the trachea are, perhaps, as comfortable, and quite as efficient. When silk is employed, it should be passed through the muscular tissues upon the surface of the trachea only; one end should be cut close, and the other brought to the surface between the superficial sutures. The ligatures, if any are necessary, should be treated in a similar manner as the sutures last described. The advantage to be derived from this plan of treatment is, that by having several sutures embrace the cartilage, one is much more certain of securing the edges of the wound for a time sufficiently to secure union by first intention—at least at some points, if not throughout; and, by allowing the ends of the deep sutures and ligatures to pass to the surface, between the superficial sutures, a perfect drainage is established, thereby guarding against abscess formation, and consequent hindrance to the rapid union of the deeper parts; and yet so trifling an interference to the union of the superficial parts that it practically amounts to nothing. Another advantage in allowing the ends of the deep sutures to protrude, as suggested, is that when they become detached they are easily removed, and are no longer a source of irritation to the parts. The same applies to treatment of wounds of the œsophagus and pharynx when sutures are required; except that here the sutures should all be passed through the entire wall of the injured part, and be placed at intervals not exceeding one-quarter of an inch; this last suggestion should also be observed in placing sutures in the trachea.

The more superficial parts should now be cleansed of clots, and neatly approximated by interrupted superficial sutures, which may consist of any convenient substances. I have found the silkworm-gut suture an admirable article, producing, perhaps, less irritation than anything I have ever used in the way of a suture. Compresses and bandages, together with adhesive strips to secure the fixation of the head, complete the dressing, which should not be removed for at least three days; and if no particular indication for the removal of the dressing arise, it may be allowed to remain undisturbed for a longer time. The patient should be nourished *per rectum* during this time; afterward he may and should take food into the stomach through a suitable tube, until such

time as (when the œsophagus is the injured part) he is able to take liquid food in the usual manner, and without leakage through the œsophageal wound into the trachea, when the latter is involved in the injury. Should the parts not satisfactorily unite, much may be done to hasten the closure of the wound by scarifying the now granulated surfaces, and by re-suturing. In injuries of the trachea, or in operations such as tracheotomy, etc., the patient is best nourished by means of a stomach tube, when of such an age that he can be made to understand the advantage to be derived from this method of taking food. The advantage of tube nourishing is mainly the insurance of less movement of the parts than when food or drink is taken in the usual manner.

This plan of treatment was adopted, in the main, with excellent results, in the following case:

Adult male, aged about 30. About 2 A.M. cut his throat with jack-knife, bled and fainted; recovered consciousness, and about 6 A.M. cut it again, bled and fainted; recovered consciousness, and about 11 A.M. grasped the trachea with one hand and the jack-knife in the other and deliberately severed the parts between the upper portion of the larynx and the hyoid bone, so that when the head was thrown back there was a gap of several inches between the hyoid bone and the upper surface of the larynx, and only about an inch (in breadth) of the posterior wall of the pharynx remained intact, all the tissues from the carotid artery of one side to the carotid of the opposite side being severed, and both these arteries exposed to view. It may be here stated that the patient was discovered about 1 P.M. of same day, clothing, bedding and floor of room saturated with blood, and he almost pulseless.

Seeing what he had survived thus far, I gave it as my opinion that he had about one chance in a thousand for recovering. In this I was discouraged by the positive statement from two competent surgeons who assisted in dressing the wound that the man could not possibly recover, and that all the time spent in trying to thoroughly, properly and carefully dress the wound would be in vain. He recovered in a manner which was very surprising. The moral which may be drawn is: Always give the patient a chance for life; he is entitled to it.

204 E. Main St., Marshalltown, Ia.

NOTE ON THE TREATMENT OF DROPSY BY CONCENTRATED SOLUTIONS OF SALINE CATHARTICS.

BY WM. G. EGGLESTON, A.M., M.D.,
OF PHILADELPHIA, PA.

In the London *Lancet* for April 21, 1883, Mr. Matthew Hay gives the details of an interesting case of dropsy treated by the use of concentrated solutions of saline cathartics. This was suggested to him by observing, during the course of an investigation of the physiological action of saline cathartics, the effect of the administration of such a cathartic on the concentration of the blood. He succeeded in "demon-

strating from experiments on man and dogs that if the salt be given in a concentrated solution when the alimentary canal contains little or no fluid, it produces an almost immediate and very decided concentration of the blood, owing to the blood becoming deprived of a large amount of its water through the intestinal secretion which the salt excites." He found, however, that this concentration of the blood does not occur if the salt is dissolved in sufficient water, or if the alimentary canal contains sufficient fluid at the time of administration. The amount of rapidity of this concentration was quite remarkable; the maximum was reached within half an hour after the injection of the salt, and in the case of a man to whom sulphate of soda 5vj, dissolved in water 3iij, had been given, the number of blood corpuscles in each cm. of blood rose from 5,000,000 to 6,790,000. Mr. Hay found that this concentration is reduced to normal in about four hours, and thinks that this reduction is not due to the absorption of fluid from the intestines, but "by the abstraction of lymph and other fluids from the tissues."

The illustrative case given by Mr. Hay was one of ascites from organic heart lesion. A dilute solution of a saline cathartic had been administered a few days before he saw the patient, but with none other than slight relief. He ordered as little as possible food and liquids during the night before the administration of the saline and sulphate of magnesia 3vj dissolved in two tablespoonfuls of water—no water to be given afterward. The result was that in twenty-four hours after first seeing the case the anasarca was greatly diminished and the dyspnoea almost gone. The purgative action of the salt began in less than an hour after its administration, and there were several evacuations in the course of the next few hours. In a few days the dropsy had disappeared, and there was no return during the month of observation. Mr. Hay remarks that he has found this treatment more useful in general than in local dropsies, and of general dropsies most beneficial in those dependent on a stasis of the circulation, as cardiac dropsy. This remark has induced me to submit the following case, illustrative of the efficacy of this treatment in a local dropsy, not dependent on heart lesion:

Robert C—, aet. 25, came under observation on August 28, 1881, with history of a severe cold and cough, with pain in the left side of the chest, about four months previously—April. Since that time he had noticed that although the pain was absent there was an uneasy feeling in that side of the chest, and there was a gradually increasing dyspnoea. The patient was thin and sallow, but little cough; respiration, 30. He was unable to take a full inspiration. On examination of the chest there was flatness on percussion over the whole of the left side up to the clavicle. There was no respiratory movement on this side of the chest, while it was increased on the right side. The apex beat of the heart was on the right side of the sternum. These, with other physical signs, showed that the case was one of pleuritic effusion (Aspiration, with a large needle of a hypodermatic syringe, showed the fluid to

be sero-fibrinous). Fearing, from the amount of effusion and the length of time during which it must have been going on, that the left lung would be seriously impaired, I proposed tapping, but the patient would not consent to this. He had taken, on the previous day, by the advice of a friend, half a teaspoonful of calomel, which had already begun to affect him in an unpleasant manner. He was ordered to abstain from water and liquid food as much as possible, and to take, the next morning, sulphate of magnesia 5vj, in less than half a glass of water.

When the patient was seen two days afterwards, there was a marked decrease in the amount of effusion. The level of the fluid was between three and four inches below the clavicle, the dyspnoea had decreased, and with the exception of weakness, the patient felt better. The salt had operated first in about three quarters of an hour, and during the day there had been eight other large watery evacuations. As the patient said, the water had literally poured from him. Another dose of the salt, 3iv, was ordered to be taken the next morning, August 11. When seen on the 12th, the fluid was still further diminished, and fl. ext. jaborandi mxx administered, which produced a copious perspiration. On the 15th of August the fluid had almost entirely disappeared from the chest, the lung had resumed its functions, and there was no dyspnoea. When last seen, February, 1883, there had been no return of the fluid.

Mr. Hay remarks that the alteration of the volume of the blood takes place apparently without any change in the blood pressure, and the blood would, therefore, appear to abstract the tissue fluids in virtue solely of its concentrated condition; also that the "presence of the salt in the blood may also influence the tissue fluids by acting on them endosmotically." It would seem, however, that the presence of the salt in the blood could scarcely be reckoned as a factor in this action. The concentrated condition of the blood would be sufficient for an osmotic action into the vessels from the tissues, and seeing that the fluid in the intestines is so much more saline than the blood, exosmosis would not be likely to occur even to a limited extent, sulphate of magnesia being of such low diffusive power that it does not readily find its way from the intestinal canal into the blood.

The fact noted by Mr. Hay, that the concentrated saline cathartic removes the fluid both by the intestines and kidneys was noticed in the case of my patient. While sulphate of magnesia produces such an abundant intestinal secretion, there is but little intestinal irritation and systemic disturbance; and its great solubility is a point in its favor, as it is not necessary to take the large amount of water which would be required to dissolve some of the other salines, as sulphate of soda. This rapid removal of fluid by two channels is an important consideration in critical cases of dropsy, and is worthy of a further trial.

PROFESSOR THEODORE VON FRERICHS, of Berlin, is dead. The fourth German Medical Congress, which will be held in Wiesbaden from April 8 to 11, was to have been under his presidency.