opposite to the raw surface left after dissecting away the mesentery of the appendix. Now one needle grasped in a pair of forceps is made to catch the wall of the cecum on one side one-fourth inch from the base of the appendix, opposite the knot tied around its base and piercing the intestine to the depth of its fibrous coat. The same procedure is gone through with on the opposite side of the appendix with the other needle. This suture is now tied. When the stump of the appendix becomes buried, neatly and completely, in the wall of the cecum usually no further suture is necessary; but should there be a slight puckering of the wall of the appendix which does not completely cover the stump, one needle is made to puncture both sides of the cecal wall which projects above the stump and is then tied to the suture on the opposite side, thereby forming a single mattress suture in addition to the one first described. This will always result in a complete burial of the appendix stump. The ligature attached to the mesentery of the appendix has been left long in the beginning; one strand of this is now tied to the silk used in burying the stump, thereby bringing the mesentery as a cap over the buried stump. This, it will be seen, results in a complete covering in of all raw surfaces. I have used this method in the last few cases in which I have operated, with great satisfaction. It seems to me that there is less postoperative pain for the reason that only enough intestinal wall is used to accomplish the desired result. The simplicity of the method shortens the time of the operation, which is another reason for its use. The accompanying drawings show the method of application for this method.

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CLINICAL OBSERVATIONS ON PULMONARY HEMORRHAGE

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The sight of blood is at all times disquieting to the layman, and is particularly alarming in the case of pulmonary hemorrhage. Even the attending physician shares in the perturbation produced by a copious hemorrhage, knowing his comparative impotence in coping with the condition. It is generally conceded that there is no direct hemostatic for blood coming from the lungs because of the inaccessibility of the bleeding point. The medicinal agencies usually resorted to are such, as is believed, bring about a formation of blood-clot in a more or less indirect way. Some of these agents are directed to the heart, reducing its force, as aconite; some to the arteries, diminishing their pressure, as the nitrites; others, again, to the lungs, limiting their activity, as opium. Some are assumed to act on the blood itself, increasing its coagulability, as the calcium salts; others by reducing its bulk, as saline cathartics.

What procedures shall we employ in our attempts to control pulmonary hemorrhage, and what shall be our guide in their selection?

Theoretically, the condition of the heart, the lungs, the vessels and of the blood itself, should be our indicator. Practically, however, those who have much to do with this condition realize how uncertain is the clinical application of this guide in the great majority of cases. From a somewhat extensive experience in the handling of varying grades of pulmonary hemorrhage at the Bedford Sanatorium of the Montefiore Home

(early cases) and the Sanatorium of the Jewish Consumptives' Relief Society at Edgewater, Colo. (advanced cases), I have formed the following conclusion:

Hemorrhage from the lungs is a common outward expression of an abnormal state of the respiratory organs, and, like any other symptom, requires for its rational treatment an understanding of the causative factors. I would, therefore, divide pulmonary hemorrhage into three types, according to the pathologic condition:

Type 1: Hemorrhage resulting from a hyperemic condition of the bronchial mucous membrane or lung tissue, associated with a relaxed or eroded area of mucous membrane (capillary hemorrhage).

Type 2: Hemorrhage resulting from the destruction of lung tissue, associated with an eroded small or medium-sized blood vessel or vessels (arterial or venous hemorrhage).

Type 3: Hemorrhage resulting from the rupture of a large blood vessel.

By far the vast majority of cases belongs to Type 1. Clinically, we may assume that such hemorrhages are brought about by any one or more of the following exciting causes: sudden chilling of the body; here the blood finds its way out by rhexis or diapedesis through a vulnerable area—I have seen many examples of the influence of this agent in patients who have been successfully tided over a period of bleeding in the warm wards only to have a prompt recurrence on their being removed to the exposed tents; by a pneumonia or pleurisy; by overexertion or excesses of various kinds; by exposure to wind; by hill climbing; by high altitude; by co-existing cardiac disease; by disturbances of the portal circulation; by over-distention of the stomach and by vomiting; by alcoholism; by vasomotor influence and menstrual disturbances, and by many other factors of varying degrees of frequency and importance which may tend to increase the pressure of the blood. The peculiar idiosyncrasy on the part of some individuals to bleed easily is also to be taken into account.

The question arises: How are we to discover the pathologic state in a given case, especially when we had not previously examined the patient and have no definite knowledge of his history? Here the following data may be of service: The immediate precursory signs of the bleeding and the character of the blood that is discharged. It is of value to know whether the hemorrhage was preceded by a tightness or feeling of oppression in the chest; whether the hemorrhage was intermittent and moderate or sudden and copious. It is to be assumed that in the first two instances the hemorrhage is due to congestion in the diseased area, and that in the latter it is caused by the rupture of a vessel. Regarding the information derivable from the blood itself, we are justified in believing that in the hemorrhage due to congestion the blood is red, has little or no air bubbles and little or no sputum, while in rupture the blood is mostly of a darker color, has numerous small or big air bubbles and is mostly mixed with purulent sputum. In the congestive variety, the blood is thin, in rupture it is more consistent. In congestion the blood is always coughed up, while in rupture it is either spurted up without effort or comes in a gush. In vasomotor or hysterical bleeding the blood is pink or rose-colored. The periodicity of the hemorrhage may be of value in establishing an etiologic influence; true vicarious hemorrhage is very rare, but there are

innumerable instances of blood spitting in tuberculous women, usually moderate in amount, but at times rather severe, which occurs only at the time and coincident with menstruation; these instances perhaps may be ascribed to the vasomotor excitability which is so usual an accompaniment of this function.

I believe that the management of pulmonary hemorrhage would be much more fruitful of results if our treatment were based, so far as possible, on the underlying pathologic condition.

Every patient with bleeding from the lungs should, first of all, be put to bed, in a semirecumbent position. This position favors the easy and rapid expectoration of retained blood and sputum, and thereby greatly lessens the danger of an aspiration pneumonia or a dissemination of the disease, both of them being too frequent sequelæ of this condition. The patient himself and those about him should be reassured by the calm and resolute demeanor of the medical attendant; the impression must be subtly conveyed that the case may, indeed, be serious, but nothing uncommon or necessarily menacing is transpiring. The room should neither be too warm nor glaringly sunny, as both these conditions produce mental and physical unrest; the bed covers should be warm, but not too heavy. Occasionally in case the patient is very excitable it may be a necessary preliminary to give a small hypodermic dose of morphin, say $\frac{1}{8}$ grain, but if possible this medication should be avoided. The patient should not be permitted to converse unnecessarily, nor should he be much spoken to. Solicitous and sympathetic friends and relatives should be barred from the room, and the sick one placed in charge of a competent nurse or a level-headed member of the household, who will not disturb him by undue zeal. The food should be given in small quantities and should be of a highly nutritious quality; it should be semisolid and not more than lukewarm; necessarily it should be as easily digestible as is possible. The quantity of fluid given should be limited. The bowels and kidneys should receive prompt and proper attention. The administration of cracked ice—a very popular procedure—is of doubtful value, and its immoderate employment is to be condemned; it is apt to produce vomiting, which tends to a recurrence of the hemorrhage. It also increases the volume of blood and thus heightens the tension which again is prone to bring about a relapse.

In the class of cases supposed to be due to congestion, agents that will bring about a reduction in the blood pressure are indicated and often are of signal service; among these the nitrites, especially amyl nitrite, take the front rank.¹ When the latter drug produces headache or palpitation, potassium nitrite may be given hypodermically, usually in grain doses; the sodium salt is also greatly extolled, but the potassium salt has a more enduring effect. The bleeding once under control, resort should be had to nitroglycerin, say $\frac{1}{50}$ grain, every three or four hours. By employing this drug according to the degree of high or low pressure (determined, if possible, by systematic use of a blood-pressure apparatus) recurrence frequently may be avoided. In case of a very troublesome cough, a small dose of morphin may be given at bedtime and will ensure a good night's rest. As the danger of pul-

monary hemorrhage is not the loss of blood, which is generally made good rapidly, but the after-effects in the shape of pneumonia or spread of the disease process, I am in the habit of giving ammonium muriate combined with codein, both in small doses. The ammonium salt favors the expulsion of retained secretion, and the codein is given in small quantity so as not to interfere with this action while at the same time inhibiting too excessive coughing. As an additional eliminant, I also administer magnesium sulphate, one dram three times daily; this reduces congestion and removes excrementitious matters which when retained stimulate the vasomotor center and raise the blood pressure. Above all, care should be taken not to over-medicate, for the digestion may be upset, vomiting ensue and nutrition be lowered. While the keynote of treatment should be to avoid stimulation, caution should be observed not to go to the other extreme and still further depress the patient.

In the second type of cases, when the hemorrhage is due to rupture of a small vessel, the aim primarily should be to reduce the force of the heart and to lessen the flow of blood through the lungs. In my experience aconite is the best agent for this purpose. In addition I use the calcium salts, preferably calcium lactate, to increase the coagulability of the blood. It may be well to warn against the generally prevailing opinion that this drug may be safely given in unlimited doses; this is an error, as it is often known to disturb the stomach. Occasionally the subcutaneous or rectal injection of sterile gelatin solution is of great service in bringing about this result. Ligation of the thighs or arms or both will greatly diminish the amount of blood circulating in the lesser system; here again I find magnesium sulphate useful in aiding this effect. Vasodilators should not be given in this type of bleeding, as they stimulate the circulation. Styptics in general are of very little if of any value.

Ergot, a drug much used in routine practice for pulmonary hemorrhage, in my opinion, is not only useless, but may even produce an effect opposite to the one intended. In the case of a ruptured vessel which usually is atheromatous, its effects are *nil*. The only result is a general contraction of the muscular coats of the sound vessels, with an accompanying increase of tension of the blood and consequently a greater flow through the ruptured point.

Unfortunately in the class of cases embraced under Type 3, in which the hemorrhage is from a rupture in a large vessel, the patients respond very poorly to the efforts of the physician. When the loss of blood has not been sufficient to produce a fatal end, the most we can do is to tide the patient over the period of collapse and afterward combat the profound anemia by suitable measures, even to the extent of employing transfusion of physiologic salt solution. Ligation of the extremities may occasionally be of service.

So-called vicarious hemorrhage, or hemorrhage coincident with the catamenial period, if moderate in character, requires no special treatment. In this condition, ergot and hydrastis are recommended by some practitioners. It would be a wise step to put such patients to bed a day or two before the expected menstrual period and to shield them from disturbing or exciting influence of any kind.

Slight hemorrhage occurring in hysterical individuals should not be treated too seriously, nor should it,

1. Instead of amyl nitrite, of late I have been using chloroform by inhalation, with excellent results. The number of cases, however, in which this agent has been applied is not sufficient to form a scientific conclusion. A more detailed report on the use of chloroform in pulmonary hemorrhage will appear later.

on the other hand, be given too little heed; for it must be kept in mind that the co-existence of hysteria with tuberculosis of the lungs occurs frequently enough and that we have to deal with a very disturbing element in a disease sufficiently serious without it. When it is possible to demonstrate that blood-spitting is produced by sucking or pricking the gums, wounding the nasal or buccal mucous membrane, the approved medicinal and psychic resources may be confidently turned to account. When this evidence is lacking, however, a hysterical individual suffering from hemoptysis should be treated for the blood-spitting, with little regard for the nervous condition which may be an accidental, not a causative, complication.

Finally, it is of some importance to be alive to the occasional occurrence of malingering. There is always a certain number of people who manage adroitly to deceive one into the belief that they are spitting blood, their object being to obtain sick benefit, to escape work or to enter a comfortable institution. It is often difficult to trap these people and to expose the spurious nature of the complaint, but one who is on his guard and who has much to do with genuine cases of pulmonary hemorrhage will usually be able to classify them in their proper category.

I have not gone into the matter of conditions other than pulmonary tuberculosis which may have hemorrhage as a prominent symptom. In most instances, a hemorrhage from the lungs means phthisis of that organ, but we can not forget the by no means rare cases of blood-spitting in bronchiectasis and in mitral stenosis.

A SHAWL PIN IN THE MALE URETHRA

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Patient.—E. P., white, aged 13, a schoolboy, was admitted to Kansas City Post-Graduate Hospital, Nov. 23, 1908.

Previous History.—The patient stated that on the night of Nov. 19, 1908, in attempting to remove an accumulation of dirt or foreign matter from the glans penis, he had passed a shawlpin head first into the urethra, and it had slipped away from his grasp and become fastened in the urethra. He denied sexual perversion.

Present Condition.—The boy is well nourished and well-developed. Intellectually, he seems below normal and has a peculiar defect in speech, something between a lisp and a stammer. He complains of nothing referable to bladder or otherwise, and passes urine without difficulty. He was brought to the hospital by his father because the boy had told him of losing the pin in his urethra, not because of any particular discomfort caused by the foreign body.

Examination.—The prepuce could be easily retracted from glans; the penis was well developed. At the penoscrotal angle, deep in the tissues, could be felt a round mobile mass about the size of a pea. Nothing like the shaft of a pin could be outlined or palpated. There was no particular pain on palpation of the foreign body, which was considered to be in all probability the head of the pin.

Roentgen Examination.—An x-ray photograph was taken by Dr. E. H. Skinner, the hospital roentgenologist. It showed the pin lodged in the membranous urethra, with an apparent shortening of the pin to about one-half its size, its actual length being six centimeters. The picture seemed to confirm the opinion that the small mass felt at the floor of the urethra was the pin's head.

Operation.—Nov. 24, 1908, after the usual surgical preparation, an incision was made at the penoscrotal angle along the urethra, over the small round mass. It had been anticipated that when the incision reached the urethra, the head of the

pin could be grasped and withdrawn; however, on approaching the urethra it was discovered that it was the point of the pin which had been nearest the surface, and that the rounded feeling imparted to the touch had been caused by the stretching of the tissues over, and, as it were, "padding" the point. The head of the pin rested in the bladder, into which viscus the entire pin had been denied ingress only because of the length and lack of flexibility of its shaft. The point of the pin was grasped by forceps and drawn through the, as yet unopened, floor of the urethra into the wound. Its entire removal was prevented by the pin head coming in contact with the urethral floor. Instead of enlarging the opening in the urethra to a sufficient size to permit the delivery of the head, the following procedure was adopted: the head of the pin was turned toward the external meatus and passed along the urethra until it could be grasped by a forceps introduced through the meatus, by which route the *corpus delicti* was easily extracted. This left only a very small puncture in the floor of the urethra, merely large enough to admit the diameter of the shaft. The wound was closed by three deeply placed silkworm-gut sutures.

Subsequent History.—The patient suffered from nausea for four hours. He was catheterized seven hours after the operation, four ounces of urine being obtained; afterward he voided urine naturally. He passed a good night and was put on general diet the next day. There was never any leakage of urine through the operative wound, which healed perfectly. The stitches were removed on the seventh day following operation, on which day the boy left the hospital. He has remained in good health since.

CYSTS WITHIN THE SPINAL CANAL

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ST. LOUIS

Krauss¹ reviews eleven cases of cyst of the spinal canal. Of these only one, that of Spiller² appears to be identical with the one herewith reported. Spiller³ says: "A collection of clear fluid in a cyst of the spinal pia arachnoid is a condition little known in America, as only one case occurring in this country is on record (Spiller, Musser and Martin), and only a few are found in the German literature. So far the French and English journals contain no examples."

History.—Miss M., a patient of Dr. Willis Hall of this city, aged about 50, was well and always very active up to August, 1905. In jumping from a rapidly moving buggy she fell heavily on the left buttock. The left ankle was broken. The hip continued to hurt after the ankle healed, and since the accident she has suffered from a "shifting neuralgia." She felt after the accident that "her spine was all jolted up." The gait was at times disturbed by the pain in the left hip. In 1906 (date can not be fixed) the patient suffered severely from pain across the chest at the upper level of the breasts. This increased through 1907. In March, 1907, she had a hard fall in a railway coach, which made her sore all over but produced no local pain. In April, 1908, the patient was in St. Luke's Hospital three weeks on account of pain across the front of the chest. In El Paso, Texas, she had "grip" (?) in August, 1908; she had no cough, no cold in her head, but ached all over, most intolerably in her hips and back. About the same time severe cramping occurred in her legs. When out riding she would frequently have to stand up in the carriage on account of the cramping. By the last of August she became extremely awkward in her gait.

Dr. Fry, who saw the patient September 5, noticed that incoordination of gait and station was the most conspicuous symptom of the case at that time. He noted also loss of pain and temperature sense with fair preservation of tactile sense in her legs.

About October 1 she became entirely paraplegic. The muscular contractures and startings were more severe. If the legs

1. In Brain, 1, 1907, Part CXX, 533.

2. Univ. Penn. Bull., March and April, 1903.

3. Am. Jour. Med. Sc., January, 1909, p. 95.