

syringe, which makes it a very simple matter, indeed. This method of putting in the citrate solution, then injecting it into the vein of the one who needs it, reduces it to its simplest terms.

It is not necessary to use blood, in the vast majority of cases of shock from sudden hemorrhage, in railway surgery. We know that many of us in past years have saved many lives by normal salt solution injected into the veins or even under the skin or into the rectum, where we had time.

In traumatic surgery we need a citrate medium. The patient is dying because there is not enough blood current to carry the volume through the vessels, and the water will stop, just as in a creek bed, because it is soaked up by the sand, but if you will take a little pipe and spray more water, you will get a little current and a patient will get well with a blood transfusion.

Now the prime object of transfusion is, where we have plenty of time to examine both the donor and the recipient, but in railway surgery, emergency surgery, we accomplish practically everything with the normal salt solution that we are going to accomplish with blood. It is much easier to have normal salt solution than it is blood, and I do not think we can get away from that most wonderful and valuable agent in the treatment of shock, especially shock from hemorrhage. While I recognize it to be true that this is a new thing and a great contribution, and the simplicity of this method puts it into the hands of all of us, at the same time we should not forget that we have accomplished the same thing with normal salt solution.

Dr. Jere L. Crook, Jackson, Tenn.—Speaking of ectopic gestation, I had, three nights ago, such a case, where the patient was so near dead when we operated upon her at 3 o'clock in the night that she was almost gone. We filled the abdomen with normal salt solution and she revived. That woman's life was saved by a combination of prompt action in clamping the tube and by an infusion of salt solution.

Dr. Newell (closing).—One of the gentlemen spoke of transfixing the vein with a needle in drawing the blood. That is a good idea. I have seen that suggested, in the *Annals of Surgery*, by a man from Augusta, Ga. Instead of using the tourniquet, if you will put on a blood pressure outfit and keep it between 60 and 80 and let the patient close and open the hand, you will get a better distention than by putting on a towel, etc.

Now, I said to the doctor over here that there was considerable danger in all transfusions without making the tests, and only in dire distress would I recommend transfusing blood without making the proper laboratory tests.

In regard to what Dr. Crook says about the infusion of saline solution, we have been using that, too, and it has stood us in good stead. It would only be a question of gravity of the case with me whether I would use hyperdermoclysis, saline solution in the vein, or a blood transfusion.

In the majority of cases he is right about the use of saline, but there are all kinds of emergencies, ectopics, etc., in which saline solution would

not be efficacious. You not only want volume, but substance, and you can only get the latter by blood transfusion.

AUTHORS' ABSTRACTS

Surgery

The Mucosa of the Rectum and Sigmoid Colon as a Focus of Infection. Horace W. Soper, St. Louis, Mo. The Boston Medical and Surgical Journal, Vol. CLXXVI, No. 22, May 31, 1917.

The mucosa of the rectum and sigmoid is often invaded by pyogenic micro-organisms, resulting in an inflammatory process which acts as a focus of infection.

Fifty cases were studied, varying in intensity from mild non-ulcerative infections of the ampulla recti to severe ulcerative processes involving the entire rectum and a part of the sigmoid colon.

The infection is mixed in character and exhibits an extreme degree of chronicity. The resulting systemic disease varies from merely nervous disturbances, headaches and constipation to pus infection of the appendix and gall-bladder, gastric ulcer, arthritis deformans, and chronic kidney disease.

Treatment by dry powder insufflation is extremely efficacious. Calomel is the powder of choice for local use, as it adheres well to the mucosa and can not be easily dislodged. It is non-irritant and may be applied to the sensitive mucosa of the anal canal without producing pain. There is no danger from absorption.

In the search for foci of infection, the lower bowel must not be neglected. In fact, no general examination of a patient is complete without proctosigmoidoscopy.

Complete vs. Incomplete Hysterectomy. E. L. King, New Orleans, La. New Orleans Medical and Surgical Journal, Vol. 69, No. 12, June, 1917, p. 820.

The author has observed a number of cases of malignancy developing after supravaginal hysterectomy for tumor, and also several cases of annoying leucorrhoea after this operation for pelvic infection. The average malignancy complicating fibroids is 4%, with a higher percentage in women over forty.

The arguments in favor of supravaginal hysterectomy may be summarized as follows: (1) lower mortality and morbidity rate; (2) simpler technique; and (3) better support of the vagina and pelvic floor. It is, as a rule, better and safer; but the author prefers complete hysterectomy for selected cases.

The technique used in Miller's clinic at the Charity Hospital is practically that of Crossen. After preliminary vaginal iodination (or curettage) the operation proceeds as in supravaginal hysterectomy. The bladder is dissected down and laterally until the vagina is exposed below the cervix. This is determined by tapping the vagina or by catching it between the fingers. The anterior vaginal wall is opened, the cervix caught and pulled upward, the vagina is clamped and cut

from before backward; a gauze pack is placed in the vagina, over which the vagina is partly (for drainage) or completely sutured. Gloves and instruments are changed and the operation completed as usual. Careful asepsis and hemostasis hasten the convalescence.

The author concludes that, with an operator sufficiently skilled in pelvic surgery, and with general and local conditions favorable, complete hysterectomy is indicated in (1) fibroids with badly diseased cervixes; (2) easy fibroids, where the added risk is slight; (3) severe chronic infections, especially Neisserian (warmly advocated by Dudley); and (4) occasionally for vaginal drainage.

Transplantation of Fat, Fascia and Living Tissue in Surgery: A Report of Experiences in Various Conditions. Allen B. Kanavel, Chicago, Ill. The Journal of the Missouri State Medical Association, Vol. XIV, No. 8, August, 1917, p. 333.

The author gave his experience with the transplantation of fat, fascia and living tissue in various surgical procedures, covering transplantation of fat to prevent the formation of adhesions about tendons, about nerves, and in joints; in the treatment of contracted hands, suture of the nerves, and of various deformities of the forearm and other parts of the body. He discussed the uses of fascia in repairing hernias and congenital defects such as spina bifida, etc. In general he found the transplantation of fat most successful where it had good living tissue around it. It was not particularly successful in osteomyelitis nor in large scars, but its use in breast cases, about tendons, nerves and in small scars was most successful.

Clinical Observations on Mammary Neoplasms. J. Garland Sherrill, Louisville, Ky. International Journal of Surgery, Vol. 30, No. 7, July, 1917, p. 226.

Sherrill believes the subject of mammary neoplasms is worthy of careful consideration at this time for two special reasons: (1) to urge upon the profession the necessity of a campaign for education of the public so that these patients may promptly come under skillful surgical care; and (2) to emphasize the fact that the diagnosis of breast cancer in the early stages is by no means work, and consultation with an expert is most desirable in perfecting the diagnosis. Some cases easy even to those most experienced in such are so puzzling that a final conclusion can only be reached after a pathological report has been added to the clinical and operative findings. The pathologic classification of MacCarty is important should it prove to be true. About 80% of mammary neoplasms are malignant.

The author discusses many of the important points in differential diagnosis between benign and malignant mammary neoplasms, and outlines the technique he employs in conservative and radical operative procedures. Several illustrative cases are cited. Radical measures are advised in all certainty or suspiciously malignant neoplasms.

Four factors operate to cause delay in applica-

tion for surgical aid: (1) the neoplasm may not be discovered; (2) timidity and ignorance of the patient; (3) inattention on the part of the physician first consulted; and (4) the erroneous impression that cancer is hopeless.

In recapitulation the author emphasizes the importance of the following points:

1. The proper education of the public concerning mammary neoplasms;
2. Careful examination of the patient, and when in doubt insistence upon expert consultation;
3. Radical operation as the best method of treatment, followed or preceded by Roentgenotherapy; and
4. Pathological examination at the time if doubtful of the diagnosis, and complete removal if malignancy is shown.

Blood Transfusion in the Anemias. Marvin L. Graves, Galveston, Tex. Texas State Journal of Medicine, Vol. XIII, No. 4, August, 1917, p. 137.

Transfusion of blood has been frequently attempted. Richard Lower, English physiologist, "was the first to perform direct transfusion of blood from one animal to another, 1665, and in 1667, Denys, a French physician, first transfused man." Direct transfusion by Crile through silver or aluminum tubes was given thorough trial, but was found to be tedious, difficult, did not permit measurement of blood, and frequently failed. Indirect method of Percy of whole blood is quite successful, but subject to objection of too much surgery, destruction of veins and requires too much surgical retinue. Lindeman's method of direct transfusion of whole blood without anti-coagulant, by means of a series of syringes rapidly cleansed in normal saline, permits use of veins again and is very successful, but requires elaborate and careful technique and surgical retinue. Experiments of Weil and Lewisohn established the value of whole blood with physiological anti-coagulant. Experiments of Lewisohn in animals and human beings proved that. Two-tenths to twenty-five hundredths per cent. solution of sodium citrate mixed with whole blood administered ad lib with insignificant results. Procedure easy, non-surgical, safe, permits unlimited quantities of blood at the smallest expenditure of time and technique. Author uses 25% solution sodium citrate, c. n. of highest purity, made by Merck or other reliable manufacturer. Uses this percentage because found to be absolutely certain, safe and non-toxic.

Reactions follow all methods of injection, run the gamut of chill, nausea, vomiting, epigastric pain and distress, general aching, headache, fever 102, 104, 105; sometimes dyspnea, flushes, superficial hemorrhages, followed by appearance of urobilin in stool and urine. Most reactions quite mild, represented by temperature of 99½, slight aching sensations. Ten per cent. of cases show reactions in practically all methods. These reactions due to hemolysis, perhaps in certain cases to protein intoxication. Suggested by Landois (1875) that human blood corpuscles are hemolyzed in animal serum, and Eisenberg and others

(Continued on page 163)