should have been done, but the patient refused amputation and died on the fourth day from acute sepsis. The other case was one of prolonged septicemia from a mixed infection in a man who had a compound fracture of both bones of the leg, for which no direct fixation was done. The mortality was 4.16 per cent.

One patient with compound comminuted fracture of the bones of the leg with dislocation of the ankle-joint had a mixed infection; destruction of the joint and tarsus followed and an amputation became necessary. All but one of the forty-six patients who left the hospital had useful limbs, that is, the one previously noted on whom amputation was done. Of these patients, 40.32 per cent. have returned to their former work and report that they notice no disability.

Roentgenograms which were taken show the conditions of the bones during and after recovery. Roentgenograms in cases of compound fractures are taken (1) after the first permanent dressing; (2) after the fixation plates have been removed; (3) when the union seems complete; (4) after the patient has returned to his occupation.

The number of cases is too small for any set conclusion with regard to the treatment of compound fractures, but certainly in this small series direct fixation has produced much quicker recoveries and far better results than the former conservative methods. It will be noted that not one of the thirty-five patients in whom direct fixation was applied to the fragments died. They all made good recoveries. In the smaller number of cases (thirteen) in which the fragments were not fixed by direct splints on the bones (three hopeless cases are not considered in this reckoning), two patients died of sepsis.

Roentgenograms show that fragments which have been plated together remain in better adjustment than those which have been wired, and the anatomic results are better, except in cases of fracture of the patella. There is less pain after the use of plates than when wire is used, and union results more quickly. It seems, therefore, that compound fractures of the long bones are best treated by rigid splints applied directly to the bones. I believe that the Lane plates are not the best for these cases, however. Experience of other surgeons has shown that in cases of compound fractures the Lane plate must nearly always be removed. Usually it is difficult to get at the screws and then it becomes necessary to use a general anesthetic and to make a considerable additional wound in order to remove this plate; whereas a plate fastened by pegs which project through the skin may be released simply by withdrawing the pegs, and if it is necessary to remove the plate this may be done simply by utilizing one or two of the punctures remaining after the peg has been removed, which requires no anesthesia.

A further consideration is the time of disability. My cases show that the average time of disability for compound fractures below the knee was six months and for those above the knee, namely, fractures of the femur, thirteen months. The use of plates thus shortens the time of disability in leg cases by about four months and of the thigh cases, five months. Of the patients, 40.32 per cent. are known to have been able to resume their former occupations. No doubt a number of others were likewise able to do this, but I could find only this number after a year or more from the time their treatment was ended.

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THE ROUTINE TREATMENT OF PUERPERAL SEPSIS

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It is obvious that not every case of fever in the puerperium is of septic origin. Engorgement of the breasts, constipation, nervous perturbation, malaria, syphilis, typhoid and other adynamic fevers are some of the many causes of fever entirely separate and distinct from sepsis due to bacterial invasion. It must also be remembered that there are two distinct varieties of sepsis: sapremia due to saprophytic infection and putrefaction of pieces of placenta, membranes, decidua or blood-clot in the uterine cavity, and septicemia due to actual bacterial invasion, most often streptococcic, of the endometrium and adjacent structures, frequently invading directly the blood-current and by far the most dangerous variety.

Sapremia answers promptly to a single evacuation of the uterus and disinfection of the genital canal, with possibly a few supplementary daily intra-uterine douches. Septicemia means a long, hard fight, not infrequently a losing one, against many complications.

It is not my purpose to discuss the various means by which bacteria can be introduced into the genital canal of a parturient patient, except in one particular. One of the causes spoken of is auto-infection, in which the germs are already present, and no one, except the patient herself, is responsible. This is a comforting thought, but merely means that she is suffering from one infection (gonorrheal, for instance) which reduces her resisting power to a supplementary infection by any pathogenic micro-organisms which may be in the lochia, and is really not auto-infection at all.

DIAGNOSIS

The diagnosis of sapremia is easy. There is a moderate fever, considerable subinvolution of the uterus and a foul brown or brownish-red discharge. A single evacuation and disinfection of the uterine cavity is usually sufficient.

The diagnosis of septicemia is not so easy, in its early stages. The general symptoms are chills, rapidly rising temperature, rising pulse-rate and a physical depression often out of all proportion to the other symptoms.

The local symptoms, on which the diagnosis usually rests, are a foul discharge (though this symptom may be entirely absent), reddened and edematous labia, a false membrane formation and a subinvolved, boggy, tender uterus. Pelvic exudate is not often an early symptom, though common enough in the later stages. In doubtful cases, certain methods of precision may be employed as aids in diagnosis. Leukocyte-counts will usually be higher than in any other form of fever in the puerperium, but in some of the worst cases a low count, showing poor resistance, will be obtained. Cultures taken from the uterine cavity, by the Doederlein tube, or cultures directly from the blood-current, are often valuable aids, but unless they are taken with the strictest aseptic technic, and submitted to a competent bacteriologist with adequate facilities for their culture and diagnosis, they become the reverse of precise.

PREVENTION

The preventive treatment of sepsis may be summed up in two words: surgical cleanliness. The nearer an obstetric case is handled like a major surgical one, the less will be the danger of infection.

The patient's room should be sunny and well ventilated. The patient herself should take a bath at the onset of labor and empty the lower bowel by an enema, and the pubic hair should be shaved or at least clipped close. The bed should be made fresh and adequately protected by pads (preferably of nursery cloth, which can be boiled and dried). The water should be boiled for half an hour at least, and trust should not be placed in antiseptic solutions. Instruments should be boiled, or if injured by boiling, soaked for at least an hour in 1:1,000 mercuric chlorid or 1:20 phenol (carbolic acid) solution, being previously wrapped in gauze or a towel. Bougies, for instance, unless wrapped, will float on the surface.

The sterilization of sheets, gauze, towels and cotton is often a matter of some difficulty. If access to a hospital sterilizer can be had, steam under pressure in an autoclave is the most efficient. A Rochester portable steam sterilizer is quite satisfactory, however, but the time-honored custom of baking in the kitchen stove is a delusion and a snare. Unless the materials are so charred as practically to disintegrate, they are not sterile, and when so charred they are of course useless. The gauze and cotton commercially prepared in glass jars have always proved satisfactory. That in cardboard cartons is open to suspicion. For sheets and towels a safe method of procedure is to have them freshly washed and then ironed with an iron not quite hot enough to scorch them.

The physician should scrub his hands just as carefully as if about to operate, and in addition should wear a sterile suit, or at least a gown, and boiled rubber gloves. It has been proved many times that parturient patients are more subject to infection by the exanthems than at other times, so the care of these patients and obstetric ones do not go together.

The nurse is governed by the same general rules as the physician, being scrupulously clean in the handling of the patient and her pads, etc. The so-called practical nurse on whom we must so often depend is a problem. Her intentions are of the best, but her execution is bad. If one can be found who does not have an ineradicable desire to test the temperature of water by wiggling her fingers in it; who does not keep the patient's pads in an open pasteboard box under the bed, or who is without a habit of impressing into service as a pad every piece of cloth she can find, before it is thrown away as useless, that one is the exception and as such a jewel beyond price.

TREATMENT

The first step in the curative treatment of septicæmia is the local disinfection of the genital canal, commonly but erroneously spoken of as curettage—an operation more abused than any single one in obstetrics. It is indicated in nearly every case, and properly done, is productive of much good—improperly done, it may be homicidal.

The patient is placed on a table (an ordinary kitchen-table answers the purpose very well) and not in her bed, as remaining in bed adds greatly to the difficulty. An anesthetic is not necessary. The vulva and vagina are carefully cleansed with cotton and

tincture of green soap and sterile water, followed by a douche of 1:4,000 mercuric chlorid solution.

The anterior lip of the cervix is caught by a double tenaculum and pulled down. This straightens the axis of the uterus, makes access to its cavity easier and lessens the danger of perforation of the posterior wall. The uterine cavity is then irrigated through a two-way catheter, and an Emmett curettement forceps is inserted and any masses of tissue contained in the cavity or hanging like stalactites from its walls are removed. The instrument usually sold under the name of placental forceps makes a first-class club, but as a surgical instrument it has its limitations. It is much too long, heavy and clumsy. If any curetting at all is done, a dull, broad-bladed curet should be used, and not a sharp one, and under no circumstances should any force be used. The so-called placental augers are outrageous instruments and should never be used. In the vast majority of cases complete evacuation can be secured by the placental forceps alone, and any curetting is unnecessary. The proper type of placental forceps is much more effective than the finger, and should be used in preference. When the operator is satisfied that the cavity is empty, a second intra-uterine douche is given, and the uterine cavity is not packed unless there is bleeding sufficient to warrant it.

Should the temperature not subside, or having subsided rise again, there is no need or justification for a second evacuation or, to use the abused term, curet-tage of the uterine cavity. Intra-uterine douching alone is advisable, and the best solution for this douche is one of tincture of iodine 2 drams, 95 per cent. alcohol 8 ounces, and sterile water sufficient to make two quarts. This douche given once daily is sufficient. Nothing is gained by douching more frequently. It is needless to add that the two-way catheter should have ample provision for return flow, to prevent any fluid passing out through the fallopian tubes.

To the form of treatment just described there is only one contra-indication—phlebitis; but as it is impossible to know in the early stages that the pelvic veins are infected and to be sure that the uterine cavity is empty, the lesser of two risks is taken by proceeding with the disinfection. Should, however, a sharp rise of temperature follow the disinfection, no further local treatment, even an intra-uterine douche, should be countenanced.

The routine use of vaginal or uterine douches, in the absence of symptoms justifying their use, and purely as a preventive of infection, is not to be recommended. The douches destroy Doederlein's bacilli, normally resident in the vagina, and by thus preventing the action of the acid vaginal secretion, remove one of the dependable barriers to infection.

In the general treatment the diet is of great importance. An easily digested, largely liquid diet should be given in quantities as great as the patient can assimilate. Alcohol should be given to the point of tolerance, from 8 to 10 ounces of whisky a day being not an unusual dose.

Stimulants are often required, as indicated by the heart-action. A patient with a pulse of under 110 does not ordinarily require stimulation. If it passes this limit, digitalin and strychnin are the most reliable drugs to be used. Artificial leukocytosis, theoretically beneficial, can be produced in one of several ways, as by hypodermic injection of 2 drams of 2 per cent.

watery nuclein solution twice daily, or the formation of a fixation abscess.

The latter recommendation is based on the fact that if a general infection becomes localized, improvement frequently results. Two drams of turpentine injected under the skin of the abdominal wall will produce an abscess which is all that can be desired. What success this treatment has had is probably due to an increase of leukocytes, but my results with it have not made me enthusiastic as to its advantages over less painful methods.

Hypodermoclysis or enteroclysis, on the principle of increasing the body-fluids and washing the blood, are worth a trial but not too much to be depended on. Enteroclysis seems to give as good results as hypodermoclysis, and is much more convenient. Two quarts of salt or sugar (1 dram to the pint) solution are given at a time.

The use of serums and bacterins is at present the subject of as much discussion as any single point in the treatment of sepsis. When the serum was first marketed it was hailed as a specific cure; too much was expected of it and naturally the results were disappointing. This much we have found as to its availability: When it is given early and in sufficient doses, beneficial and sometimes brilliant results can be expected. When it is given late, the results are disappointing. The minimum dose is 80 c.c., given hypodermically every six hours; 100 c.c. is better, but the small doses of 10 or 20 c.c. are waste of time and material. The serum must be fresh, and it will not stand transportation for great distances. It is an expensive form of treatment, because of the large doses required. In desperate cases it can be given intravenously, and by this method I have secured immediate improvement in a case when the hypodermic method of administration for forty-eight hours had produced no effect whatever. I have not seen anaphylaxis from these large doses, or any other untoward effects. Occasionally patients seem benefited by the injection, in addition to the antistreptococcic serum, of from 5 to 7 ounces of normal human blood-serum, secured from a healthy donor, once daily. This is worth trying when the results from the antistreptococcic serum have not been satisfactory. Much of the criticism against the use of serum has been based on insufficient dosage and late administration, either or both. When it is given in doses of from 320 to 400 c.c. in twenty-four hours, it is a valuable aid in the treatment of sepsis, though it cannot be hailed as a cure for sepsis *per se*.

The use of bacterins has not been so satisfactory even as the serum. They are chiefly indicated in localized infections, and are nearly if not quite useless in the general blood-current infection. The best results have been obtained in gonorrheal arthritis complicating the puerperium. Here again large doses, from 250 to 500 million or more, must be used, and either autogenous or polyvalent cultures may be employed.

Colloidal silver has been largely used abroad, but is of doubtful utility. It can be used as an inunction of from 5 to 10 per cent. argyrol ointment, or the intravenous injection of from 3 to 5 c.c. of a 2 per cent. collargol solution, repeated at twenty-four-hour intervals for three or four doses. The inunctions, though they may not prove beneficial, are at least harmless; the same cannot be said for the intravenous injections,

as alarming collapse has followed their use. There is still a great deal of doubt as to the favorable action of either plan.

There is no purpose in this paper of discussing the surgical treatment or the complications of puerperal sepsis, with one exception (phlegmasia alba dolens), as this falls more in the line of specialism and hospital treatment. Every physician should, however, be familiar with the indications requiring abdominal section, in a case of sepsis. Briefly stated, continued septic symptoms, plus the development of an abdominal mass, palpable above the symphysis or Poupart's ligament, demand surgical interference. Infiltration of the bases of the broad ligaments does not require abdominal section, as 90 per cent. of these cases undergo spontaneous resolution, and the rest can be opened, if needed, through Douglas' pouch. The explanation of this abdominal mass is found to be almost always a cornual abscess, pointing toward the peritoneum. I wish to emphasize the advisability of operation for these cases. I am aware that in many places surgical intervention is deprecated, as these cases are said to be hopeless. Without operation they are indeed doomed, as the abscess will rupture into the peritoneal cavity. With operation and proper drainage (which is the main factor in success), 90 per cent. of them can be saved. In the last ten years, at the Maternity of the University of Pennsylvania, the mortality in 165 of these operations was fifteen, or 9.6 per cent., and this in a class of cases that without operation are hopeless. Rapidity of operation, removal of only what is diseased, putting in only enough ligatures to stop the bleeding, leaving the broad ligaments gape, drainage by a glass tube in Douglas' pouch out through the lower end of the abdominal incision, with the pelvis packed full of gauze and the end of the gauze emerging alongside the glass tube, and active stimulation are the factors influencing success. The glass tube is sucked out every twenty-four hours and removed in five days; the gauze is slowly removed over the next five days, and the sinus then drained by a rubber tube. Vaginal drainage is useless in these cases and will reverse the mortality figures. The whole subject of the surgical treatment of puerperal sepsis is a most complicated one and it is not my purpose to touch on it further in this paper.

The commonest complication which the general practitioner meets is phlegmasia alba dolens, or milk-leg, and because of its relative frequency deserves some discussion. It begins late, from ten to thirty days post partum, with pain in the calf, usually the left, and some swelling. A moderate fever lasts for a short time, and the swelling extends until the whole lower leg and not infrequently the thigh are greatly increased in size. The vein can often be felt as a tender cord down the inner surface of the thigh.

Treatment consists in elevation, applications of equal parts of lead-water and alcohol, painting ichthyol over the course of the vein, or application of a saturated solution of magnesium sulphate, and the patient must be kept as quiet as possible, in bed, until the temperature has been uninterruptedly normal for at least ten days. The greatest danger is pulmonary embolism, and prognosis must therefore be guarded. The danger of embolism is greatly increased by too early activity or by massage, which should never be used. Often considerable stimulation is required, as the disease is depressing and asthenic in tendency.

A much rarer form is cellulitis of the thigh, which tends to suppuration of the connective tissue, and is treated like cellulitis in any other part of the body.

Abscesses in the phlebitic variety are not unknown, occurring most often in the popliteal space, but it is the tendency to embolism that must make our prognosis guarded, and make us forbid the patient to leave her bed until the fever and local tenderness have entirely subsided, and limit her activities, when up, until the swelling has practically disappeared.

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THE PSYCHANALYST AND THE COMMUNITY *

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In the midst of the current discussion of psychanalysis, many aspects of the psychoanalytic trend have been brought into view. The aspect, however, which to me seems by far the most vital but which has as yet received the least consideration is the relation of psychanalysis, and therefore of the psychoanalyst, to the community.

There still persists, not alone in the lay, but also, unfortunately, in the medical mind, a wide-spread misapprehension in regard to the larger social and ethical implications of psychanalysis. It cannot be said that this misapprehension is due altogether to the mistaken interpretation of the dissenters; to a large extent it is due to the tendency of certain of the accepted adherents of the Freudian school of psychology. But wherever the blame should be placed for this misconception of the position of psychanalysis in relation to the ethical values of the community, it seems to me that it should now be the privilege, if not the obligation, of the psychoanalyst to make clear the significance of his position to the body social, and to state in no disputable terms on what grounds he bases it.

The sphere of the psychoanalyst is restricted for the most part to the study and relief of disorders embraced under the unhappy designation of functional nervous diseases or psychic disorders. It is, of course, justly acknowledged that the psychic equation of a patient enters more or less within the reckoning of every physician. Certainly it pertains conspicuously to the province of the specialist in nervous diseases—the neurologist, the medical psychologist. What is of momentous significance, however, in a comparison between the positions of these general trends of psychotherapy and the specific trend of Freud, is the wide difference in their fundamental method of procedure as determined by the essential disparity of the basic conceptions underlying these differing schools.

Of the numerous measures which human ingenuity has devised for successfully coping with nervous disorders, the aim hitherto of all of them has been essentially a remedial aim, that is to say the removal of discomfort. Relief, alleviation, cure is the exclusive idea. The underlying purpose of the conventional therapeutic regimen is conciliation, concession, propitiation. Thus, of the general schools of psychotherapy, the central idea is ease, palliation, support. The con-

dition being one of discomfort, it must be replaced by one of comfort; and as the primary remedial object is easement, this must be sought with a view to the minimum incommmodity to the patient. Hence conspicuous features of the more popular psychotherapeutic equipment are a quiet and remote domicile, conditions of isolation, rest in bed, attendant nurses, soporifics, and incidentally an occasional visit from the physician whose chief resources consist of a persuasive optimism combined with a gentle sympathy and a tactful evasion of aught that might in the least savor of unpleasantness to the patient.

I do not wish to disparage such a method. It possesses an undoubted therapeutic value. But whatever its remedial virtue, the fact is not to be blinked that, in the main, the method is designed with a view to the delectation of the patient. It is largely a program of concession. It is parleying and indirect. It temporizes and conforms, is diplomatic, cautious. It is a program that is encumbered with considerations of etiquette, rather than a direct and untrammelled scientific approach to the understanding and adjustment of the disorders at which it aims. The physician makes no real demand on the patient, but on the contrary directs all his ingenuity toward making him comfortable; thus the aid which a patient receives through such a mode of treatment is to a large extent rendered him on his own terms.

The position of the psychoanalyst demands a directly contrary course of procedure. Here the situation admits of no compromise, no evasion, no attitude of indulgence. The policy of the psychoanalyst is a robust one, and he outlines it without mitigation or cavil. Simply and directly, however considerably, he explains to the patient the psychologic meaning of his disorder in accordance with the psychoanalytic interpretation, and informs him of the bearing of faulty mental habits and adaptations on the causation of nervous processes. The physician explains the essential disharmony at the root of these disorders; the irreconcilability of contending mental and emotional influences within the personality, pointing out the inherent conflict thus embodied in neurotic disorders. He further explains that a true adjustment may be made only through an honest recognition of the vital unconscious trends with which his personality is now blindly and inadequately contending. At the same time he frankly tells the patient that the process through which the requisite adjustment is to be made entails difficulty, discomfort and personal sacrifice on his part, and he does not disguise from the patient *his* responsibility in this effort of readjustment.

While not unsympathetic to the suffering of his patient, the psychoanalyst makes clear that his is no maudlin or sentimental sympathy, such as would surround the patient with the soft and ineffective ministrations of external attentions, but that his sympathy is virile and adult and allied to what there is within the man of courage and honest purpose. And so the psychoanalyst makes clear his position that for him "cure" means a thorough and unflinching acquaintance with one's innermost self, that cure is the attainment of an undistorted vision of life without regard to personal comfort or edification, and that the mind which is torn with inner doubt and discord is prepared to accept terms of peace with itself only when it has been brought to see things in their unembellished truth.

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