result of taking strychnin. It took me about six months to find the true cause of the trouble, and then I discovered that every time she took strychnin in 1/60-grain doses a convulsion followed the first dose. After the strychnia had been discontinued these convulsions entirely disappeared.

DR. C. G. SLAGLE—The best of all treatment for hysteria, so far as I know, is hypnotism, and I have tried all forms of treatment.

DR. HARRIET E. GARRISON—The best of all treatment for hysteria, in my opinion, is teaching the parents to discipline their children as soon as they are able to know anything. If this were done there would be much less hysteria.

DR. EWING, Salt Lake City—I have had a number of such cases in children, and I have threatened them with hypodermic injection. Usually this threat has been sufficient to effect a cure.

DR. ED. E. MAYER, Pittsburg, Pa.—The remarks made go far to prove that hysteria in childhood is frequently observed in America, notwithstanding statements of Sachs and others. The classification proposed by Dr. Slagle, or idiopathic, simple and symptomatic, does not strike me as either scientific or adequate. Idiopathic is a term applied when the cause is unknown, and should be relegated to the past as having no place in scientific nomenclature. In cases of hysteric joint disease, the important part is to exclude organic disease. The diagnostic points I have given in the paper should be of service. I spoke there of the absence of temperature elevation, absence of inflammation *around* the joint—but if present, it is found extending upward and downward from the joint. Then again, by distracting the attention of the patient, it will be found that the articular services can be rubbed together without causing pain, which would be impossible in organic disease.

I consider hypnotism the worst thing a physician can use in infantile hysteria. Hypnotism is merely a form of induced hysteria and is always dangerous in children. Suggestion, however, may be of benefit if the child is of a sufficient age to receive it. But hypnotism is even more harmful than the spiritualistic séances and camp-meetings which are productive of hysteric boy-preachers and the like.

The most important part of the treatment is isolation and rest and I would ask you for your own protection to isolate every hysteric child if you expect to cure it.

CONVEYANCE OF INFECTION THROUGH THE MEDIUM OF THE EAR SYRINGE: A REMEDY.*

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Inflammation of the middle ear may result from various affections of the nose and throat or from infection externally, and may terminate in recovery without treatment. With modern treatment many cases undergo a speedy recovery, running a course of from a few days to two months, while others under similar conditions and with the same treatment result in a most violent inflammation involving the mastoid and surrounding structures, or lapse into chronic suppuration.

The variation in severity and chronicity is in a large degree due to the character of the bacterium or bacteria causing the infection. "Whether the disease shall promptly run its course or change into the chronic form depends upon the continued activity of the germs present or upon the gradual dying out of the first culture and implantation of new varieties upon the now affected membrane." (C. R. Holmes.)

The germs commonly causing inflammation of the middle ear are: the diplococcus of pneumonia, staphylococcus pyogenes albus and aureus, streptococcus pyogenes and the bacillus pyocyaneus. (Holmes.) These and other germs found in the ear vary greatly in virulence. The staphylococci are for instance less virulent than the streptococcus pyogenes, and the most destruc-

tive process results from a mixed infection caused by the bacillus tuberculosis and the streptococcus pyogenes.

In the treatment of these affections it should be our aim, therefore, to prevent added or mixed infection, and, as in the dressing of surgical cases, it is necessary to use clean instruments.

The syringe commonly used in the routine treatment of these infections is a piston syringe. In its use the point is immersed in the solution and the cylinder filled by suction, the point then touches the ear, from which there is such a profuse discharge that a part becomes adherent to the point, the syringe is removed, to be used again on the next patient. In sucking up the solution this time some of the pus adherent to the point is drawn into the cylinder to be forced into the ear of the next patient. The leather washer becomes contaminated and makes a good culture-medium which can not be boiled without being destroyed. Or the pus may remain on the point to directly infect another patient.

In order to prove these surmises the writer made cultures from the points and interiors of several ear syringes and demonstrated the presence of various bacteria, including the staphylococcus pyogenes aureus and albus, streptococcus pyogenes and bacillus tuberculosis, and became convinced that the ordinary ear syringe is a dangerous and dirty instrument, capable of implanting new and mixed varieties of infection on a fertile field.

An ear syringe, to be aseptic and practicable, must meet the following requirements: 1. The point which comes in contact with the ear must be capable of sterilization, and so constructed that it can be easily removed. 2. There must be no suction through this point.

The fountain syringe answers these requirements, and in my office I have used, for about two years, a metal tank, suspended from the ceiling, which rests against two steam pipes. These pipes keep the water at a proper temperature during cold weather. With this I use small glass points, and change them after using in a septic case. The fountain syringe is, however, open to the objection that the current can not be regulated at will, and, accordingly, Meyrowitz has made, at my suggestion, a bulb syringe which has a valve at each end. The solution is drawn in at one end through a rubber tube so large that the bulb is quickly filled. The rubber tube at the other end is smaller and terminates in a point fitted with a shield to protect the operator from the return flow. The point can be unscrewed and sterilized.

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DISCUSSION.

DR. L. C. CLINE, Indianapolis, Ind.—I do not see the point the Doctor makes in reference to putting the syringe in the ear, nor the necessity of introducing the point of the syringe into the ear sufficiently to infect it. It is my practice to hold the point of the syringe away from the ear so that it never touches the ear at all. I hold it away from the ear and steady the syringe with the point of the finger of the other hand. By keeping the syringe away an inch or two from the ear we can wash it as well or even better than if we put it in the ear.

DR. A. R. BAKER, Cleveland, Ohio—For several years I have done away with all forms of piston syringes in the treatment of the ear. I simply use the little bulb ear and ulcer syringe that is commonly to be found in the drug stores. This instrument can be boiled and sterilized, and I never find any difficulty from using it. I can remove a plug of cerumen in one-third of the time required with any other instrument.

DR. B. ALEXANDER RANDALL, Philadelphia—This subject of aseptic syringing is an exceedingly interesting one. There are many who regard it as absolutely unsurgical to use a syringe at all, but I am by no means such a one, for I use it habitually, and I am sure it is with most satisfactory results. Every improvement in this direction is of considerable importance. Much can be done by the avoidance of any contact with the infected tissue, and if we will rest the syringe on the thumb of the hand holding the ear we can often avoid infection. Yet any one who is a teacher and has his instruments used by others in the clinic may have them infected by others even though he be very precise himself. I myself prefer a small syringe that does not have the element which is present in this and some other instruments. I refer to the shield to ward off the return flow. It seems to me this prevents much of the precision with which the instrument should be used since it cuts off the view. I like a small tip and can then carry it to any necessary depth in the canal with full view, as in tympanic syringing. But every measure which tends to make syringing a safe as well as efficient procedure is of importance.

DR. C. R. HOLMES, Cincinnati, Ohio—While it is true that men like Dr. Randall and Dr. Cline, careful men who are expert, will be able to use their instruments with sufficient care, an instrument that is in universal use must be such that those who are not expert and careful can use it without danger of infection. The objection urged by Dr. Randall, that you like to have your point so you can see just where you are going, is a good one. When you wish to syringe out cerumen, for instance, it is better to have it arranged so you can syringe between the plug and the wall, and under such circumstances naturally the syringe must be contaminated. It is unfortunate that our instrument makers do not make the same kind of packing as the German instrument makers. I have brought over instruments from Germany with the reddish composition packing, and I have boiled them repeatedly, but when they were finally played out I could not get as satisfactory packing here. The point of having an even temperature, if that can be arranged successfully, is certainly very desirable. In cold weather especially we are likely to get the water too hot or too cold. For middle-ear inflammation I use the water at a temperature of 110 to 120, and even 130 F. I have found that water at that temperature is very soothing. Generally 120 F. is as high as may be used conveniently.

DR. F. C. TODD, Minneapolis, Minn.—In regard to the point Dr. Cline mentioned, I think Dr. Holmes answered that question satisfactorily. We can, if we take the pains, keep from touching the ear in a great many instances. However, we are very likely to touch it even when we are extremely careful, if the patient moves. The fact that cultures of the various bacteria mentioned were obtained from the ear syringes of various aurists who allowed me to examine their syringes would tend to show that many are unable to keep their syringes aseptic. I do not like to shove the syringe in the ear, but I do like to get it close enough to use it with effect. Students are especially in the habit of putting the syringe right up against the ear. As to the point mentioned by Dr. Randall, in regard to the shield, I will state that the shield can be removed. I often use a swift current in chronic cases, especially when there is a large quantity of cholesteatomatous material present, and then we can do much more with the syringe than by picking at it with instruments. The return flow then gives considerable trouble unless you have a shield to carry it off. Another advantage of the syringe, which I did not mention in the paper, is that we can keep right at work with the bulb without turning around to fill the syringe as with the ordinary syringe.

AUTOMATIC DRAINAGE OF NORMAL CAVITIES.*

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It is not my desire to enter into a consideration of the relative merits of capillary and tubular drainage, when it becomes necessary to conduct undesirable liquid products from cavities. Suffice it to say that each will at times find a field of application peculiarly its own. There can be no doubt that when large cavities, i. e., peritoneal or pleural, or hollow viscera, i. e., gall or urinary bladder, are to be drained of considerable quantities of liquid, tubular drainage—either by means of glass or rubber—with few exceptions will offer the ideal method. The advantages of tubular drainage are briefly stated: 1, that by this means the product sought to be removed may be conveyed through the dressings applied, so preventing soiling of them, which is certainly of much importance in cases in which contamination of the wound would be undesirable; 2, that the discharges may be efficiently withdrawn from the containing cavity, although often necessitating the more or less constant attention of a competent nurse, as when used in the peritoneal cavity in aseptic cases.

Some of the disadvantages are that the fluid which it is sought to remove will only find exit through pressure exercised on it from within, or through overflow, or else by removal through aspiration, by means of the usual long-nozzled syringe or other device, as generally employed, and if this is not in the hands of a competent attendant, infection is likely to follow. This latter objection is vital when it is not possible to leave the case in the care of a competent nurse, as sometimes happens where cases have to be operated on in their homes, remote from such advantages.

To overcome these objections I have for some years employed a device which automatically removes or siphons the cavity empty of its contents. It consists of a glass chamber, to one end of which is attached a rubber bag to receive the discharges, and to the other end is attached a rubber tube for connecting with the cavity to be drained, either through the intermediation of a rubber or glass drainage-tube, as may be elected. The glass chamber is nearly filled with sterilized water, and then suspended at the side of the bed where the patient is confined, or suspended at the side of the thorax or limb in draining the thoracic cavity or bladder in ambulating cases. The water in the glass chamber gravitates into the receiver, and as it does so creates a vacuum, which aspirates the liquid from the cavity desired to be drained.

To me this method of drainage has found a field of usefulness in draining the pleural cavity of purulent contents, by keeping the cavity comparatively free from purulent accumulations and preventing the ingress of air, thus permitting the approximation of the parietal and pulmonary pleura and facilitating the process of repair. In using this method for drainage of the pleural cavity, I make use of an ordinary rubber drainage-tube long enough to reach the most dependent portion of the cavity, which has a rubber shield, applied to prevent the ingress of air.

In draining the gall-bladder or urinary bladder after cystotomy, I employ the method that I have already described as used in draining the pleural cavity. In the event of drainage being desired after the patient is able

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