

garris so far has found general or universal favor. Authors and investigators have exploited their particular views from time to time, expressing their preference for this or that special form of treatment, but always with a considerable degree of reservation, in reference to the completeness of immediate results, and absence of relapses. This conservatism has resulted in the conservation of all the generally accepted old and new methods of successful treatment in the monographs of nearly all who have written on the subject in a text-book or general way.

Of noteworthy interest in this direction is the fact that a commission appointed by the German government in recent years, for the purpose of studying the cause, prevention and cure of lupus, set forth in a report in May, 1910, that all hitherto accepted methods of successful treatment, such as the application of astringent, stimulating and erosive pastes and ointments, the use of the Roentgen ray, Finsen and Kromayer light, radium and mesothorium, the various forms of surgical procedure after the method of Lang and others, should, at least for the time being, be retained. The same commission in an earlier report, in November, 1908, stated that there were 11,354 recorded cases in Germany at that time, and estimated the total number for the empire, after making due allowance for the unrecognized undiagnosed and non-reported cases, to approximate 33,000 cases.

Heidingsfeld, in the present article, gives his method of treatment as follows:

A saturated solution of trichloroacetic acid is obtained by adding 10 drops of distilled water to 1 oz. of pure crystals. A tiny pledget of cotton is carefully wrapped around the end of a small rounded wooden toothpick, by means of which the remedy is applied, so far as practicable, to each congested nodule. The remedy apparently exerts a selective action, attacking the nodules with greater promptness and sparing somewhat the intervening more nearly normal, or cicatrized areas. This selective action is also noted if the remedy is applied more or less diffusely to a generally congested surface,

although better results are usually obtained if it be carefully applied to the few individual nodules for a few seconds at a time. The application produces a momentary sense of discomfort and stinging, which can be promptly allayed by the application of the following: Sulphurated potassa, zinc sulphate—of each, 1 part; zinc oxid, 10 parts; lime water, 15 parts; distilled water, enough to make 40 parts; powdered carmine, enough to color pink.

This application serves, in addition to its protective and healing properties, as a cosmetic to hide the glaring whiteness produced for the time being by the trichloroacetic acid. The acid should be applied to areas no larger than a silver quarter, at one time, and repeated at intervals of from seven to fourteen days. Under the treatment, nodules become the seat of superficial crusts which exfoliate within from five to ten days. The general congestion diminishes, and the nodules lose in intensity of redness, and rapidly diminish in size, until they gradually become no larger than pin-heads, and ultimately disappear. Mucous membrane lesions on the lips and within the nose have yielded with equal promptness and success.

Twelve cases are reported, in all of which the patients were greatly benefited or clinically cured.

**Treatment of Edema of the Scrotum.** Kondoleon<sup>3</sup> describes the benefit derived from diversion of the lymph from the scrotum by excising the deep fascia and turning over the tunica vaginalis. In the case reported, he excised the fascia, cutting out a piece the length of the lengthwise incision and two fingerbreadths wide. Then he incised the tunica vaginalis and turned it outward as in an operation for hydrocele, and then sutured the skin without draining. This was done on both sides. He recommends the procedure for all cases of elephantiasis of the scrotum in its first stage, when there is merely stagnation of lymph without much sclerosis of connective tissue.

**Treatment of Ringworm.** Ringworm is such an intractable disease, such a bugbear to schoolmasters and

(3) Zentralbl. f. Chir., September 26, 1914.



parents of children attending school, that any quicker and more efficient treatment than that known to us at present would be welcomed. Foley<sup>4</sup> finds the following method effective:

The part being first washed with a strong solution of sodium bicarbonate, is swabbed with a piece of lint moistened with ether to remove grease, painted with tincture of iodine, and an ethyl chlorid spray immediately applied. It is best to work with a pair of ethyl chlorid tubes in each hand, as a larger area is covered in quicker time. The deeper the disease process, the longer the spray must be applied. It should be used until the integument gets china-white and then stopped. It will be found that in from twenty-four to forty-eight hours the patch of ringworm has become quiescent. The smallest commencing spots should be looked for and treated in a similar manner, when they also will disappear in from a few days to a week. In ringworm of the scalp three or four applications of iodine and spray are required, but on the face or smooth surfaces one application suffices.

#### Purpura Hemorrhagica Treated With Horse Serum.

Bodenheimer<sup>5</sup> reports a case in which good results were obtained from this treatment. Ten c.c. of horse serum were administered intramuscularly. Calcium lactate in 2-grain doses every two hours, and gelatin and orange juice freely, were administered by mouth. The hemorrhagic blisters in the mouth, which proved to be gangrenous, showed a marked improvement in twenty-four hours after the administration of the horse serum; in fact, they acted as remarkably as the diphtheritic membrane does after the administration of diphtheria antitoxin. The epistaxis ceased, but the bloody stools continued. In forty-eight hours, the blisters or gangrenous spots in the mouth, which had been at least one twenty-fifth of an inch in diameter, were practically well. The bloody stools continuing, 10 c.c. more of horse serum was administered and the treatment by mouth continued.

(4) Brit. Med. Jour., March 21, 1914.

(5) New York Med. Jour., Oct. 10, 1914.

The stools were markedly improved in the next twenty-four hours, and after two or three days were normal. The treatment by mouth was continued for a week and the child carefully nourished. She was watched for some time, but after three months there has been no return of symptoms.

She had the not unusual urticaria ten days after the serum administration, but outside of the usual parental alarm and discomfort to the patient the recovery was uneventful.

**Rhinophyma Successfully Treated by "Decortication."** This case of rhinophyma is reported by A. P. Heineck<sup>6</sup> for the following reasons:

1. This chronic condition of the nose, although it is not painful and occurs almost invariably in males, who, as a rule, are less sensitive than females to facial disfigurement, always exposes its victims to ridicule, often makes employment difficult to obtain, and not infrequently hampers a patient's whole career. Hebra gave the name "rhinophyma" to this disease.

2. Owing to the fact that in the treatment of this affection medicinal and non-operative measures never give satisfactory results, patients soon acquire the erroneous impression that cure is impossible.

3. Though Ollier long ago demonstrated that "pound-nose" (called by him *éléphantiasis des buveurs*) can be successfully treated by decorticating the nose, that is, by removing the diseased tissues, by the aid of the thermocautery or cutting instruments, surgeons in general seem to ignore the fact that this unsightly deformity can be corrected by an operation of great simplicity and of unfailing efficacy.

4. Complicated operative procedures have been devised for and recommended in the treatment of "hammer-nose." Being based either on inadequate knowledge or faulty interpretation of the pathology of this condition, all such operative measures should be discarded.

5. Some diversity of opinion exists as to the etiology and pathologic anatomy of rhinophyma. Coplin, who made the histologic examination of the tissues removed

(6) Jour. Amer. Med. Ass'n., January 10, 1914.



from Keen's patient, diagnosed the condition, from the pathologic point of view, as a soft fibroma of the skin, with distention of the acini and possibly a hyperplasia of sebaceous glands.

All observers are agreed that the diseased part presents an enormous hyperplasia of the connective tissue of the corium; a thickening, dilatation, tortuosity; a numerical increase in the cutaneous arteries, veins, and capillaries; and an increase and hypertrophy of the sebaceous glands, the excretory ducts of which show marked lengthening and dilatation. The latter is caused partly by the retained secretion, partly by the active hyperplasia of the glands.

Heineck's patient was a Bohemian tailor of good habits, 48 years of age. The disease had existed for 31 years. The entire facial skin was seborrhoic. The nose and the bordering cheek-areas were dusky-red and presented a large number of thickened, dilated and tortuous cutaneous vessels, and many dilated, large, gaping sebaceous-gland orifices, some of which were plugged with inspissated secretion. Many pustules, co-existent with some rosacea, were on the cheek. The external portion of the nose was greatly hypertrophied; its tip consisted of a soft, lemon-sized mass. The hypertrophy was limited to the superficial external portion and did not extend beyond the nasal orifice.

Under ether, the operative procedure was as follows: The index-finger of the left hand, introduced into one of the nostrils, stretched the soft tissues and held the thickness of the nose under control. This facilitated the modeling of the wings of the nose and guarded against the removal of too much tissue. The exuberant tissue masses on that side were then ablated with a sharp razor; the finger was introduced into the opposite naris and the same procedure repeated on the other side, care being taken during the entire operation not to injure the osteocartilaginous framework of the nose. The intent was to remove almost the entire diseased cutaneous portion of the nose, as the pathology of the disease is in this cutaneous covering. In rhinophyma, the nasal bones,

the nasal cartilages, their fibrous covering, and the endonasal lining show no apparent change, and therefore should not be molested. To make the nose more presentable, some paring was done here and there with scalpel and scissors, until the form of a normal nose was reached. It could easily be seen that the tissue removed contained degenerated and cystic sebaceous glands filled with epithelial debris and sebum. The operation somewhat resembles the whittling of a block of wood with a jack-knife.

The hemorrhage, profuse at first, was readily checked by compression with sterilized gauze. To prevent its recurrence, a hard-rubber nasal tube was introduced in each nostril, counter-pressure being thus secured from within against the pressure exerted from without by the gauze and bandage. The nasal tubes were removed in twenty-four hours. For the first forty-eight hours the post-operative treatment consisted of hot boric compresses applied every two hours to the operative wound. After that time the part was dressed with calamine lotion. Recovery was uneventful. At the end of eight weeks the wound was completely epidermized.

**Gangrene of the Penis Promptly Healed With Salvarsan.** Ravaut<sup>7</sup> reports a case of gangrene beginning as edema and itching of the prepuce eight days after coitus. The following day a small black spot appeared, and rapidly enlarged. Two days after the onset the patient entered the hospital with a large area of crusted, black, foul-smelling gangrene. The surrounding tissues were red and edematous. The man could scarcely walk because of the pain and discomfort. He was having chills, and on admission the temperature was 40 degrees C. The glands of the inguinal group were small but hard. He was immediately given an intravenous injection of 0.45 gm. of Neosalvarsan and a Neosalvarsan compress applied locally. The following day the chills and fever continued, but the lesion was freely suppurating. On the second day after the injection the temperature fell to normal, the odor had disappeared, and the crust

(7) Bull. Soc. franc. de Dermat. et de Syph., 1914, p. 89.



became detached, leaving beneath a clean, slightly bloody eschar. Two days later a second injection of 0.45 gm. was given. An uneventful recovery resulted.

**Failure of Absorption of Intramuscularly Injected Oil.** Hypodermic or intramuscular injection of the aqueous solution of a drug usually produces a prompt result, but the injection of a suspension of the drug in oil may be quite disappointing in some cases, as shown by Pautrier, Desaux and Rabreau<sup>8</sup>. Many observations have been made of the appearance of new and serious syphilitic lesions during the course, or shortly after the cessation, of treatment with gray oil, showing that the mercury was not being utilized. A mercurial stomatitis has been seen to develop months after the discontinuance of the injection, arising either spontaneously or after the administration of iodid, or, in exceptional cases, following a fall or blow on the gluteal muscles. In these cases the oil has become encysted, and when liberated by one process or another rapid absorption has resulted.

A case in point was that of a young girl, born in Paris, but who had resided in the West Indies most of her life. She had acquired leprosy while there, and on her return to Paris it was decided to give her intramuscular injections of a mixture of the oil of chaulmoogra, eucalyptol, and sweet almonds. Of this about 5 cm. were injected 3 times each week, alternately in one and the other buttock. The injections were given in series, with a period of rest between. In all, about twenty-four injections were made, representing about 60 c.c. of oil for each buttock. All the injections except the last were well supported. After a rest of two weeks the needle was inserted for another injection, but a fluid appeared in the syringe, and on aspiration 50 c.c. of a sterile, oily mixture were withdrawn.

There was no local tenderness, no local reaction, and obviously there had been no appreciable effect produced on the disease.

**Radium in Skin Diseases.** In radium therapy everything depends on the proper equipment and the technic.

(8) Bull. Soc. franc. de Dermat. et de Syph., 1914, p. 233.

F. E. Simpson<sup>9</sup> has used varnish applicators of different types. A useful style of apparatus is the so-called "toile" or flexible linen applicator. One apparatus of this type is rectangular in shape, covers 12 sq. cm. of surface, and is of one-twentieth strength.

Other applicators have metal instead of linen backs, are square or round, and are of one-fourth, one-half or full strength. As the applicators are constructed so that 10 mg. of the radium salt are spread over 1 sq. cm. of surface, a one-twentieth-strength applicator contains about 0.5 mg.; a one-fourth-strength, 2.5 mg.; a one-half-strength, 5 mg., and a full strength, 10 mg. of radium sulphate to each square centimeter of applied surface. Many authors prefer the use of a nomenclature that will express the amount of radium element instead of radium salt in each square centimeter of the applicator, a terminology that has much in its favor.

The chief advantage of the varnish applicators over other styles of apparatus lies in the uniformity of their action over their entire surface. Certain types of radium applicators produce a more intense reaction at the point of application than at the periphery of a lesion, which is an obvious disadvantage.

The technique of radium treatment is extremely varied and can be learned only by a certain amount of experience with each applicator.

In general, one uses the apparatus either naked, that is, wrapped only in rubber tissue, or with screens of metal interposed between the applicator and the skin. Lead, silver, aluminum, brass and platinum have been largely used as screens, but a tendency is now noted toward the discontinuance of lead screens on account of the irritating secondary rays developed in passing through. Simpson commonly uses screens of aluminum or silver which are covered with from five to ten thicknesses of black paper to absorb the secondary rays, the whole apparatus being then enveloped in rubber tissue and applied to the skin by adhesive or rubber bands.

Radium reactions in the skin have sometimes been compared too closely with Roentgen-ray reactions. In gen-

(9) Trans. Sec. on Derm., A. M. A., 1914, p. 236.



eral, radium reactions are much more benign than Roentgen-ray reactions, and when destructive inflammation has been produced, healing is much less slow and uncertain. This is especially true of the reactions in which beta-rays predominate, but even severe gamma-ray reactions are more benign than severe Roentgen-ray reactions.

Only three groups of diseases are touched on: Epithelioma, lupus erythematosus and angioma.

*Epithelioma.* It has been sufficiently demonstrated that radium is a very efficient agent in epithelioma of the skin. Up to the present time about forty cases have been treated. To a certain extent these were selected cases, being of the type usually treated by the dermatologist. The general experience leads to the belief that certain epitheliomas are probably resistant to radium as well as to other forms of actinotherapy, while other cases are too far advanced to be materially benefited. It would be premature to draw conclusions at present as to the relative efficiency of radium and the Roentgen ray in epithelioma. Both agents have distinct fields of usefulness in this disease. Epithelioma may be healed with radium, applied with or without a screen. Without a screen, an epithelioma 2 or 3 cm. in diameter and not too deeply situated may be healed with a one-fourth-strength applicator in five or six treatments of an hour each. With a screen of 0.1 mm. of silver, eight hours may be required. More frequent use is being made of screens in order to limit the inflammatory reaction and because experience has shown that the deeper parts of the growth are probably better reached. An epithelioma can also be healed with a single massive dose of heavily screened radium. The method of operation is determined solely by the nature of the growth and the convenience of administering the treatments. The cosmetic results are equal, if not superior to those obtained by any other method.

*Lupus Erythematosus.* About twenty cases have been treated. In view of the intractable nature of this disease, the results of radium treatment are, on the whole, very encouraging. In selected cases Simpson was able to

obtain complete involution of the disease. Unfortunately, relapses may occur; but these so far have yielded to persistent treatment. The painless character of the applications enables one to pursue the treatment vigorously. The technique has much to do with success or failure. The chronic "fixed" types are best treated with destructive doses. Experience with this disease has led Simpson recently to prefer screened radium. He now uses in the average case a one-fourth or one-half-strength applicator screened with 0.1 mm. of silver, and treat each patch from about four to six hours in the course of two weeks. The inflammatory reaction is thus rendered less severe than when naked radium is used. Unfortunately, some patients, when they first come under observation, are more or less scarred by the disease or by previous treatment. Even in these cases the cosmetic result is sometimes quite satisfactory. In selected cases of not too long duration or of too large area a very good cosmetic result has been obtained.

*Angioma.* The results obtained in certain types of nevus vascularis (birth-marks) are superior to those hitherto obtained by any other method. In a certain number of angiomas radium offers the only practical method of treatment. It is particularly successful in the angiomas of children on account of its painlessness. Large flat angiomas (port-wine stains) of deep red color can often be treated with a good cosmetic result. While amenable to several different techniques, "port-wine stains" are most successfully treated by giving just enough raying to produce a marked erythema with desquamation. With a one-twentieth-strength applicator screened with 0.01 mm. of aluminum the proper amount of reaction can be produced in about four or five hours. Several repetitions of this treatment will often result in a satisfactory decolorization. Elevated, papillomatous angiomas must be treated with slightly stronger doses in order to level the surface and bring about decolorization. With a one-fourth-strength applicator, unscreened, an exposure of from two to four hours may be given in fractional doses. When the reaction subsides, the series of treatments may be repeated, if necessary. Several



courses of such treatment will usually bring about the desired result. With certain types of cavernous angiomas in children, a reduction and leveling of the tumor can sometimes be produced without visible inflammatory reaction. This shows the specific and selective action of radium on the blood-vessels.

To attain the best results in angiomas, infinite care and attention to detail are needed. While the cosmetic results are naturally not always absolutely perfect, the enormous improvement is so noteworthy as to be nearly always satisfactory to patients. In selected cases an almost perfect cosmetic result can be obtained.

**Value of Radium in Dermatology.** On account of the extravagant exploitations of radium by the profession, as well as by laymen, a statement as to its actual value as a therapeutic agent (at present) may be enlightening, says A. F. Holding<sup>1</sup>. The majority of physicians are not in a position to judge the merits of this element, because its scarcity and high price place it beyond their reach. Judging from the unusual publicity accorded the discovery of this new chemical, with its marvelous physical properties, it was logical to expect that the therapeutic results would be quite phenomenal; but such results take years to perfect.

For two purposes one must acknowledge that radium has greater possibilities than any other similar agent in use at present, namely: (1) In diseases of faulty metabolism, in which the radium emanatorium may be used, and (2) in malignant lesions of cavities, in which the neoplasm is inaccessible or difficult to expose to direct application of Roentgen rays, such as the esophagus, rectum, vagina, urinary bladder, and fauces.

The application of radium to benign growths is unnecessary, because benign conditions can be controlled more quickly and easily and with less expense by the electric desiccation method of Clerk, and by massive doses of Roentgen rays.

One fact that would seem to justify hopes of superior results from radium is that the most penetrating Roentgen rays in use represent the output of a 60,000

(1) Trans. Sec. on Derm., A. M. A., 1914, p. 291.

to 100,000 volt current, while it is estimated that an electric current of from 600,000 to 1,000,000 volts would be necessary in order to produce Roentgen rays of as great penetration as the most penetrating rays of radium, that is, currents ten times greater than the strongest currents now employed for the Roentgen rays. Previous to the advent of improved Roentgen-ray tubes of the Coolidge type, this argument was more convincing than at present; with the penetration of the Roentgen rays completely under one's control, it is reasonable to hope that Roentgen rays can soon be generated, having nearly as high a penetration as the gamma rays of radium, and it is certain that Roentgen rays can be produced from electrical sources in greater quantity and at less expense than the gamma rays of radium can be obtained.

The field of usefulness of radium has been greatly increased since the employment of radium emanations. The bulk of radium is so small that formerly it could be applied only to limited areas. The present method is to draw off the emanations of radium into glass capillary tubes, which retain for about twenty-four hours a radio-activity approximately equal to that of the original radium. A lesion of any size can be covered by these glass tubes, arranged parallel to each other. By the addition of fresh emanation each day to these mats of parallel tubes, the radio-activity can be continued indefinitely. In the field of local applications to lesions of the skin and mucous membrane the agents to be compared with radium are electrical desiccation (Clark), ultra-violet rays (as applicable from a Kromayer lamp), massive doses of Roentgen rays of controllable penetration (Coolidge), surgery and destruction by caustics, cautery or cold. In comparing the relative value of these methods, eight points should be considered:

1. *Cost:* Radium is far more expensive than any of the other methods. Massive Roentgen rays, electric desiccation and ultra-violet rays come next in expense. Surgery and caustics are the cheapest.

2. *Ease of Application:* As to ease of application, much depends on the training of the person who administers the treatment. Each therapist will naturally



do the best work with the greatest ease by employing that agent with which he is most familiar. Other things being equal, radium and caustics are easier to apply than the other agents in question.

3. *Time Consumed in Treatment*: Radium applications are much longer in duration than any of the other methods. They require hours while the other treatments require minutes.

4. *Pain*: Radium, Roentgen-ray and ultra-violet light treatments in proper dosage cause no pain. Electric desiccation and carbon dioxid snow cause slight pain. Surgery and cauterization are very painful and require a local anesthetic. Chemical caustics are the most painful.

5. *Cosmetic Effects*: Cosmetic effects are best after radium, Roentgen rays, ultra-violet light, desiccation and carbon dioxid snow, and poorest after surgery or cautery.

6. *Dangers*: With a proper technique there are no dangers in any of these methods. Poor technique is a *de facto* contra-indication for the use of any agent.

7. *Superficial Healing and Deep Extension*: The well-demonstrated superficial healing powers of radium and the Roentgen rays should not mislead one into attempting to cure too extensive a lesion with these agents alone, lest the lesion make deep inroads while valuable time is wasted on superficial healing.

8. *Indications in Dermatology*: Non-malignant and skin conditions, such as warts, moles, nevi, acquired blemishes like tattoo marks or keloids, lupus, mycosis fungoides, blastomycosis and acnes can most readily be controlled by electric desiccation (Clark). If one has the equipment, massive doses of Roentgen rays, carbon dioxid snow and ultra-violet rays may be used in these conditions with advantage. Radium will give good results, provided the radium and time necessary are available. For superficial lesions surgery is contra-indicated, because better cosmetic results can be obtained with less danger and less pain by non-surgical methods. Psoriasis, eczemas and skin-diseases due to faulty metabolism should be treated first by systemic measures,

including radium emanation, if available. When this does not produce the desired results, electrical methods, such as massive Roentgen rays are indicated. In deeper malignant conditions of the skin, the following therapeutic program should be adopted:

1. Massive Roentgen deep therapy, or massive radium deep therapy.

2. Complete radical operation, preferably by bloodless methods, such as thermo-penetration, electro-cautery, or massive caustics (Stroebel).

3. Effulguration (de Keating-Hart) into the wound.

4. Post-operative Roentgen deep therapy or massive radium deep therapy.

In hopeless malignant skin conditions the patient's symptoms can frequently be much ameliorated by massive deep roentgenotherapy or radiotherapy.

#### **New Method for External Application of Radium.**

Applying a very small amount of radium for a long time should give the same result as a large amount for a short time. Vallet<sup>6</sup> found that an ideal excipient for keeping the radium in place could be obtained by combining pure gelatin with colorless India rubber. This preparation is non-irritating, odorless, colorless, and does not decompose, nor melt at body temperature.

Two strengths of radium preparations are used: one for mobile surfaces, containing sufficient radium to give erythema in fifty days, and alopecia in sixty-five days; the second similar results in fifteen and thirty days, respectively.

With Vallet's "Endermoradium" it is easy to prevent burns, and the expense is comparatively small.

**Neosalvarsan and Salvarsan in Herpes Zoster.** Gebb<sup>2</sup> reports two cases of very severe herpes zoster starting in one eye. He made an intravenous injection of 0.45 gm. neosalvarsan or of 0.28 gm. salvarsan and a marked change for the better was manifest in forty-eight hours, soon followed by complete recovery. The patients were a man and a woman of about 60. The effect realized by

(6) Arch. Derm. Syph., July, 1914.  
(2) Med. Klinik, June 28, 1914.



the salvarsan suggests a possible infectious origin for herpes zoster.

**Glucose as a Diuretic in Edema of Eczema.** Ch. Laurent<sup>7</sup> reports excellent results from the intravenous injections of a 30 per cent. solution of glucose. The patient was a young man with a markedly inflammatory eczema and edema of the lower extremities. The total amount of urine for 24 hours averaged 750 c.c. After injection of 250 c.c. of the solution, the urine increased to 1,200 c.c., then fell to 800 c.c. A second injection of 500 c.c. sent the total volume to 1,800 c.c., then 2,800 c.c., 3,600 c.c., and finally back to 3,000 c.c., where it continued for two weeks.

There was no reaction and no glycosuria after the injections. The edema rapidly disappeared, and the eczema healed in a short time with the aid of local applications of a tar ointment.

**Implantation of Hair.** Havas,<sup>8</sup> in reviewing the various methods for implantation of hair, says none can be taken seriously except that of Székely. This procedure, however, gives a good cosmetic result, is practicable, and fairly rapid; in a half-hour sitting 500 hairs may be put into place.

A fine gold wire, 0.05 mm. in diameter, is looped to form a minute hole large enough for the hair, which is passed through the eye until the two ends are equal. The gold wire is doubled upon itself and passed through a Pravaz needle until the free ends emerge. These ends are then bent back against the sides of the needle and cut off, leaving about 2 mm. hooklets on either side. The needle is then thrust obliquely into the skin and withdrawn, leaving the hair anchored in the skin by the hooklets.

Strict asepsis must be maintained or the hooklets will slough away.

(7) Bull. Soc. fran. Derm. Syph., April, 1914.

(8) Arch. Derm. Syph., May, 1914.

## GONORRHEA.

**Vulvovaginitis in Children.** The importance of gonorrhoeal vulvovaginitis in children lies not merely in the physical discomfort and occasional serious complications resulting therefrom, but in the moral shock produced on the child and the family by the occurrence of this loathsome disease in the midst of the innocence of infancy and childhood. Possibly because it occupies a sort of midway position between pediatrics and gynecology, few specialists have given this disease the serious consideration it merits. The epidemics of vulvovaginitis that have from time to time invaded children's hospitals and institutions have aroused pediatricians to the contagiousness of this infection. The profession at large has not, however, seemed to realize that a condition so contagious in institutions must also be frequently transmitted from child to child, or through some other agency, outside of such hospitals and institutions. Particularly in schools, in tenements, in public playgrounds, or wherever children congregate in considerable number, and the same lavatories and towels may be used, we have conditions favoring infection. That the disease is far commoner than was formerly supposed is being generally recognized. Taussig<sup>1</sup> studied sixty-six institutional cases in St. Louis. In the Children's Hospital Dispensary of that city it occurred in 5.3 per cent. of the cases examined. Seippel estimates the number of cases occurring annually in Chicago at 500. Pollock believes that from 800 to 1000 girls are yearly infected in the city of Baltimore.

For practical purposes, vulvovaginitis should be termed gonorrhoea. A correct appreciation of the etiologic factors can only be obtained by considering the anatomy and histology of the lower genital tract in girls before puberty. Why is it that we find these infections not transmitted to little boys or to girls beyond puberty or to adults? The gonococcus grows most rapidly on delicate squamous or cylindrical epithelium. Such delicate epithelium is found about the vulva and vagina in little girls, whereas in adults the epithelium is much

(1) Amer. Jour. Med. Sci., October, 1914.