

near the area to be covered, or from some other surface of the body. Thus, for example, a flap from one leg may be used to cover an ulcer of the other leg, or, in order to cover a raw surface on the hand or wrist, two parallel incisions may be made on the anterior chest wall, the skin between them detached from the underlying muscle, and the hand passed beneath this flap, where it is held in place by a plaster-of-Paris dressing. When it has become adherent the attachments of the flap are gradually divided. Finally, if none of these methods of treatment should prove successful, the question of resection of the part or amputation must be considered.

Special Forms of Ulcer.—The above methods of treatment are those applicable to the usual forms of ulcer. The specific or special forms of ulcer, however, require special treatment. A syphilitic ulcer requires the use of mercury locally as well as mercury and the iodides internally. A tuberculous ulcer is best treated by thorough curetting of the diseased tissue, after which formalin in one- to two-per-cent. solution or iodoform makes the best local application. It is also necessary to build up the system with cod-liver oil, syrup of the iodide of iron, and the hypophosphites. In order to cure a perforating ulcer of the foot, the ulcer must be thoroughly curetted and all dead bone removed from the base of the ulcer. Where the ulcer is a result of constitutional disease, as scurvy, diabetes, or gout, the disease must be treated in order to cure the ulcer.

Malignant ulcer can only be cured by the destruction or removal of the new growth. For the treatment of epitheliomatous ulcers, caustics, with or without curetting, excision, photo- or radiotherapy, may be employed. The best caustics are arsenic, chloride of zinc, caustic potash, and formalin. The objections to this method are the extreme pain, the lack of certainty as to the removal of all of the growth, the fact that the lymphatics and glands are not dealt with, and also that, unless the treatment is thorough, growth is stimulated rather than retarded. The scar is also apt to be unsightly. In most cases excision forms the best method of treatment. The incision should be wide of the ulcer, and all induration of the tissues and any lymphatics or glands which are involved should be removed. Finsen has reported a number of malignant ulcers treated by his light method, some successfully and some not, but since the publication of the cure of a case of rodent ulcer by Sequera,¹² of London, by means of the Roentgen rays, this method has been successfully tested and used all over the world in the treatment of malignant ulcers; especially good results having been reported in the treatment of rodent ulcer by Taylor¹³ and others. It cannot be denied, however, that in a certain number of malignant cases this mode of treatment is absolutely without effect. Its particular use is in inoperable cases, and in those in which an operation would leave a badly deforming scar.

It is not necessary to enter deeply into the consideration of the treatment of lupoid ulceration, as it is taken up in another section of this work. The old methods of treatment by excision, scarification, the use of the Paquelein cautery, nitrate of silver, salicylic acid, resorcin, formalin, and calomel injections are still held to by many. Unna¹⁴ has recommended the use of soap containing from five to twenty per cent. tuberculin. Hallopeau¹⁵ recommends permanganate of potassium. Dethlifsens¹⁶ claims excellent results, especially as to the scar, from freezing with ethyl chloride spray; but the treatment of lupus by phototherapy and radiotherapy is now receiving the most attention. Cases are undoubtedly cured by both of these methods. Many, however, are still sceptical as to the permanency of the cure, although Finsen has reported 130 out of 456 cases of lupus treated by his light method, free from recurrence for from one to five years. The objection to the method is the time required for each treatment, the large number of treatments necessary, and the great expense. The x-ray treatment, which is less expensive, will, according to Morris and Dore,¹⁷ heal ulcerative lupus more rapidly than the Finsen light, although the latter is more effective in small

non-ulcerative conditions. The exact action of the x-ray is not known, as it has been found that it does not kill bacteria in cultures, as is done by the Finsen light. But it appears to stimulate normal cell growth at the expense of morbid cells, which, being of lower vitality, are destroyed. Its application has also been shown to cause leucocytosis.

Routine Treatment of Ulcers.—While there can be no routine treatment of ulcers applicable to all cases, it may be of use in conclusion to give briefly the usual method adopted by many of the large clinics in New York city in treating the common forms of leg ulcer. If the ulcer be inflamed, the inflammation is reduced by wet dressings of alum acetate or one-per-cent. solution of ichthyol. After this is accomplished, if the ulcer is still dirty or the discharge profuse, after thorough cleansing with hydrogen peroxide and 1 in 1,000 bichloride of mercury, a one-per-cent. wet dressing of creolin is used. Sloughs are cleaned up with iodoform or naphthalin powder and the granulations stimulated with nitrate of silver. Balsam of Peru is used as a stimulating dressing except when the ulcer is painful, when ichthyol or alum acetate wet dressings are substituted, or a ten-per-cent. ichthyol ointment is applied. When the cavity is almost filled, or when the granulations become exuberant, red-wash gauze is substituted for the balsam of Peru, the gauze being covered with a layer of Lassar's paste on lint. And, finally, when the granulations reach the level of the surrounding skin, the edges are very lightly touched with nitrate of silver and adhesive strapping is applied. During the whole treatment maintenance of the limb in an elevated position, for as long a period of time as possible, is advised, and a snug, even, muslin pressure-bandage is applied over cotton, from the toes to the knee. Complications or unusual conditions are treated according to the methods previously described. Finally, after a cure has been effected it is always well to instruct the patient in the care of the limb. It is important that he should keep it clean and dry, and if necessary powdered with talcum powder or stearate of zinc, and when varicose veins are present, he should wear an elastic stocking or bandage, thus avoiding a recurrence of the ulcer, which so frequently occurs.

In conclusion, I wish to express my thanks to Drs. B. Farquhar Curtis and W. C. Lusk for the use of photographs of their cases, and to Drs. W. S. Schley and F. O. Virgin for their aid in obtaining the other photographs.

John Douglas.

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ADDENDUM TO ARTICLE ON TYPHOID FEVER.

(See page 926.)

Dr. Wright's latest reports (*British Medical Journal*, October 10th, 1903) are exhibited in the following tables:

TABLE I.—SHOWING THE INCIDENCE OF AND DEATH RATE FROM TYPHOID FEVER IN THE BRITISH ARMY IN INDIA DURING THE YEAR 1901.

	Average strength during the year.	Cases of typhoid fever.	Deaths from typhoid fever.	Incidence Per cent.	Death rate. Per cent.
Uninoculated	55,955	744	199	1.33	0.36
Inoculated	4,883	32	3	.66	.06

This table shows that antityphoid inoculation diminished the incidence rate of typhoid fever by one-half and the death rate by five-sixths.

TABLE II.—SHOWING THE INCIDENCE OF TYPHOID FEVER IN LORD METHUEN'S COLUMN AT THE MODDER RIVER, SOUTH AFRICA, FROM DECEMBER, 1899, TO MARCH, 1900.

	Number.	Cases of typhoid fever.	Incidence rate. Per cent.
Uninoculated	10,981	257	2.3
Inoculated	2,535	26	1.0

It will be noted that the table testifies to a diminution of the incidence rate by more than half during the period of observation.

Dr. Wright infers from the testimony of Table I., and from his own previous personal experience with inoculation in India, that the *minimum* duration of protection afforded by antityphoid inoculation is three years.—G. B. S.

END OF VOLUME VII.



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