

Both tubes are greatly enlarged and contain a brownish-red material, having the appearance of clotted blood. Springing from each tube at one point is a fungoid mass of grayish-white granular-looking growth, which has the characteristic appearance of masses of chorionic villi. Connected with each tube is a fetus. On one side the fetus is well preserved, is 9 cm. in length, and is attached to the material having the appearance of chorion by an umbilical cord 15 cm. in length. In this fetus the finger-nails are already apparent; the external ear, although still rudimentary, can be made out, and the eyes and other features are fairly well developed. The cavity of the mouth and tongue are well formed. The fetus on the other side appears to have undergone an arrest of development. It is brownish in color. Its lower limbs are perfectly apparent, as are its upper ones, but its trunk and head are contained in a well-defined capsule composed of firm tissue, apparently of the nature of connective tissue. A definite head and face cannot be made out in this fetus. In the portions apparent the fingers and toes are differentiated and the finger-nails are well formed.

Anatomic Diagnosis.—Bilateral extra-uterine pregnancy.

CASE 2.—History.—Patient, aged 28, housewife, complained of pain low in abdomen on left side. Menstruation was normal. Last period was slightly less than usual (see below). Patient noticed soreness in left lower abdominal quadrant about fifteen days before examination and had twinges of pain in this region. About five days later physician noticed a tumor at this site. If lying down and turning toward right side, she could feel something drop, from left to right, felt as if something were going to fall out of her. She had distinct sensation of pain at last menstruation, which lasted three days, stopped for a very short time, and then began as a continuous flow of brownish, watery fluid.

Operation.—On opening the peritoneal cavity there was found a small amount of free, blood-stained, turbid fluid. Partially beneath the sigmoid on the left side and firmly bound down by new-formed tissue was a mass the size of a small orange. This was the left tube and ovary, the seat of an ectopic pregnancy. The adhesions being broken up with some difficulty, the mass was brought up and the tube and broad ligament on the left side were clamped off and removed. The right ovary was macerated and lay behind the uterus and bound down by adhesions in the pelvis. This ovary was about the size of a hen's egg. On breaking up the adhesions this appendage was found the seat of a second ectopic gestation. This tube and the ovary (which was intimately associated with the ectopic mass) were removed and tied in the same manner as on the left side. The remaining portions of the broad ligaments were brought over and sutured to the cornua of the uterus, thus walling off from the abdominal cavity the raw surfaces produced by the liberation of the bound-down appendages. The patient's recovery was uneventful.

Pathologic Report.—Specimen consists of (1) fallopian tube 10 cm. long and (2) gestation sac. (1) Peritoneal surface in proximal two-thirds is grayish pink, smooth and glistening and tube is slightly thickened. In distal one-third peritoneum is greenish brown. Fimbriated extremity is absent and represented by a soft boggy mass measuring 6 by 4 by 4 cm. On section cut surface is irregular, reddish brown and is apparently blood. (2) The sac is a round somewhat firm mass; the outer surface varies in color from grayish yellow to bluish black. Surface in part is rough, due to dissection and in part covered by peritoneum and has numerous fibrous tags attached. On section cut surface shows a cavity within the mass lined by a smooth glistening membrane. Within this cavity is a fetus about 2.5 cm. long, which is attached to the wall by a cord. About this cavity the cut surface is mottled reddish-brown in color.

Anatomic Diagnosis.—Double ectopic gestation. Chronic pelvic peritonitis. Decidual cells and chorionic villi shown by sections from the walls of the sac of each tube. Necrosis of the decidual tissue and thrombosis.

174 West Fifty-Eighth Street

EROSIVE AND GANGRENOUS BALANITIS

THE FOURTH VENEREAL DISEASE
A FURTHER REPORT*

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In May, 1909, Dr. Frederick G. Harris and I reported our observations on a specific form of balanitis, due to a symbiosis of a spirochete and a vibrio.

This was the first time in this country that attention was drawn to this specific form of balanitis, although abroad Scherber and Müller² had classified this form of infection and proved conclusively that balanitis gangraenosa was identical with the *balano-posthite erosive circinée* of Bataille and Berdal,³ only representing different degrees of severity.

Notwithstanding the fact that reports have come from McDonagh⁴ in London, Scherber⁵ of Finger's clinic in Vienna, Dind⁶ in Switzerland, Romeo⁷ in Italy and Kallionzis⁸ in Greece, since Scherber and Müller's² publication in 1904, an extended search of the American current literature and text-books still shows a lack of appreciation of the virulence of these organisms.

Scherber's second and extensive communication⁵ on the different forms of balanitis, published in 1910, describes the condition in detail.

Erosive or gangrenous balanitis is a specific infectious venereal disease, with local and constitutional symptoms varying with the severity of the infection. The cause is a symbiosis of a vibrio and a spirochete. These two organisms are always found together. Both have been demonstrated in sections, in the blood-vessels and in the inguinal nodes.

Predisposing causes are (1) a long, tight foreskin excluding the air, always present to a greater or less degree; (2) wetting the labia or penis with saliva, and (3) unnatural sexual relations, after alcoholic excesses.

In private practice in this country the disease is uncommon, probably occurring once in two hundred cases; but in dispensary work, in which material comes from the lower walks of life, the infection is fairly common. Scherber⁵ reports eighty-one cases that occurred in Finger's clinic in four years.

That more cases are not reported in this country is due, I believe, to the lack of recognition, and it is with this idea in view that I have had the accompanying illustrations made.

BACTERIOLOGY

Abundant evidence is at hand to show that in noma and in Vincent's angina the etiologic factors are a spirochete and a vibrio. Rona⁹ says that "noma begins without exception in gangrenous stomatitis. If the fusiform bacillus and spirochete found in the mouth are etiologic factors in gangrenous stomatitis, since the organism is found in such abundance in noma, it must be due to the same cause."

* Read before American Urological Association, April 15-17, Boston.

1. Corbus, B. C., and Harris, Frederick G.: Erosive and Gangrenous Balanitis, the Fourth Venereal Disease, THE JOURNAL A. M. A., May 8, 1909, p. 1474.

2. Scherber and Müller: Arch. f. Dermat. u. Syph., lxxvii, 77.

3. Bataille and Berdal: Méd. mod., 1891, II, 340.

4. McDonagh: West London Med. Jour., 1911, xvi, 131.

5. Scherber: Handbuch der Geschlechts-Krankheiten, 1910, I, 153.

6. Dind: Rev. méd. de la Suisse Rom., 1911, p. 592.

7. Romeo: Gazz. d. osp., Oct. 4, 1910, p. 1257.

8. Kallionzis: Ev Zopy., 1910, xv, 385.

9. Rona: Arch. f. Dermat. u. Syph., 1905, lxxiv, 171.

In 1905, Weaver and Tunncliff¹⁰ described a fusiform bacillus which was isolated in pure cultures in cases of Vincent's angina and ulceromembranous stomatitis. Later, Tunncliff¹¹ described three strains of fusiform bacilli isolated in pure cultures from the normal mouth. These resembled the organisms which she found in Vincent's angina and in ulceromembranous stomatitis.

In the first publication on this subject, by Harris and myself,¹ numerous authors were cited and abundant clinical proof was obtained to substantiate the pathogenicity of these organisms.

The accompanying photomicrograph (Fig. 1) from Tunncliff's¹² work shows typical vibrios and spirochetes cultured from a case of noma, and Tunncliff believes the organism to be one and the same only representing different stages of development. Ellerman¹³ takes exception to this, however, calling attention to the lack of motility of the cultured organism.

I have repeatedly examined the spirochetes found in Vincent's angina under the dark-field illuminator. Here the organism is identical with that found in erosive and gangrenous balanitis, the motility being one of the characteristic and diagnostic features.

Since the conditions that favor the growth of these organisms—heat, moisture, filth and absence of air—are more ideal in the genitalia than in the mouth, it is easy to conceive how an organism may leave its normal saprophytic domain and under proper anaerobic conditions become pathogenic and produce extensive destruction.

Examinations of vaginal secretions of one hundred normal women⁵ showed bacteria and spirochetes similar to those found in smegma, but no spirochetes of balanitis.

In eleven cases of clinically evident vulvitis and vaginitis, vibrios and spirochetes were found.

ETIOLOGY

As shown in Figure 2, the vibrio and spirochete are the predominating organisms found. We can easily argue, as did Rona, in 1905, that if the fusiform bacillus and the spirochete found in the mouth are etiologic factors in gangrenous stomatitis and gingivitis, erosive and gangrenous balanitis must be due to the same cause, since the organisms are found in such abundance in these conditions, and especially since in the histories of all my cases unnatural sexual relations or a wetting of the labia were admitted.

The vibrio grows under anaerobic conditions on serum-agar. It occurs singly or in chains of two or more individuals. It is a slightly curved rod-shaped organism with pointed ends, measuring about 2 microns in length and 0.8 microns in width. It stains by the ordinary dyes and is Gram-positive, although the decolorization must be performed very carefully, as the organism gives up the gentian violet readily. It is preferable to use 70 per cent. alcohol for this purpose.

The spirochete is Gram-negative, but stains with the ordinary dyes; with the Giemsa stain it takes a bluish red. These organisms are best seen with the dark-ground illuminator. They average from 6 to 30 microns in length and about 0.2 micron in width. The windings are not acute and the ends of the organism terminate in the center of the spiral. The motion of the organisms is very rapid; they travel from place to

place, resembling small snakes; they have a rotary motion, but this is not so pronounced as the backward and forward motion.

After unsuccessful attempts at animal inoculation with cultures, Scherber⁶ does not believe in the pathogenicity of the fusiform bacillus and considers the spirochete responsible for the lesions.

A rapid and simple method of collecting the pus is by capillary attraction with small capillary pipets. These may be pushed deep into the ulcers and a quantity of fresh discharge obtained. The pus may be examined with the dark-field illuminator, or fixed and dried and stained from two to three minutes with carbol-fuchsin. It is to be examined without cover-glass with oil immersion (the method used in Figure 2).

PATHOLOGY

The pathologic condition in the milder forms of balanitis erosiva circinata consists simply of a flaking off of the epithelium, leaving small superficial erosions. When the desquamation is more marked there are bright-red ulcers, which are surrounded by a small white zone, the remains of the necrotic epithelium.

In the surrounding tissue there is an exudation of leukocytes and plasma. The organisms are found in the necrotic membrane. At times they can be demonstrated in the tissues and blood-vessels, as shown by Scherber and Müller.

In the more severe grades of infection there is more venous stasis and more exudation, resulting in marked phimosis which predisposes to gangrene. As Scherber and Müller² pointed out, the whole condition is one of degree only, but for clinical purposes we may distinguish two types: (1) balanitis erosiva circinata and (2) balanitis gangraenosa.

SYMPTOMS

Balanitis erosiva circinata commences with the appearance of one or more small grayish-white patches in the preputial sac. At the time of the development of the erosion an offensive thin pus is produced, of a characteristic stinking odor and of the usual yellowish-white; in the more severe cases it becomes grayish-white or grayish-brown.

Pus from lesions is innocuous.³ In its development the inoculation never becomes pustular, but necrosis of the epithelium always represents the beginning, and the future process is polycyclic.

Infection shows a preference for the sulcus coronarius, next on the inside of the prepuce and last on the glans. In development all of the glans penis is affected and under favorable anaerobic conditions the whole fossa navicularis is affected. It must be borne in mind that more or less phimosis is an essential factor.

In the mild cases the foreskin may be easily retracted, but in the more severe forms marked phimosis develops; there is considerable itching and burning behind the glans; the act of urination is practically without pain. In contradistinction to the gangrenous form in this type of the disease, constitutional symptoms are slight or absent.

As the process follows no hard and fast lines there are certain deviations from the foregoing picture. The process may be limited to the glans and the inner surface of the foreskin may be unaffected. This may be extreme or mild, but is always present on the covered portions of the glans.

10. Weaver and Tunncliff: Jour. Infect. Dis., 1905, No. 2, p. 446.

11. Tunncliff: Jour. Infect. Dis., 1906, III, 148.

12. Tunncliff: Jour. Infect. Dis., 1911, VIII, 316.

13. Ellerman: Centralbl. f. Bacteriol., 1905, xxxviii, 383.

The inflammatory condition may remain a purely erosive superficial process and may recover spontaneously. Berdal says that in simple cases healing takes place in four or five days. Scherber has seen spontaneous healing almost completed in forty-eight hours by simple washing and admission of air by retracting the foreskin. He further states from observation that the height of the development usually occurs in from four to eight days after exposure to infection, and that he seldom saw cases of four weeks' incubation and cases persisting for three or four weeks.

In a number of cases the process does not remain superficial, but develops deep diphtheritic and gangrenous ulcers, which complicate the clinical picture in many ways.

In some cases when the foreskin can be retracted, after removal of the pus, small, round ulcers can be seen inside of the erosions, varying in size from that of a pinhead to that of a pea. These ulcers are moderately deep and on the whole flat and surrounded by a red zone. They are covered by a closely adherent pseudo-membrane. In other cases the ulcers are more extensive and deeper, the average size being about that of a dime. These may become confluent and extend over the whole surface of the sulcus or the inner surface of the foreskin.

These balanitic ulcers are of a somewhat irregular outline and are surrounded by a small inflammatory, slightly elevated border. This border is clean-cut and the sides somewhat slanting; the base is uneven,

In the severe forms the constitutional symptoms are more marked. Scherber and Müller noticed chills and fever in a majority of their cases and at the onset vomiting. The average temperature ranges from 100 to 101 F. There is marked edema, the external skin being red and edematous; the infiltration may extend to the root of the penis in some cases. The dorsal lymph-cord is usually palpable and the inguinal nodes are enlarged, but not painful. Unless the phimosis is

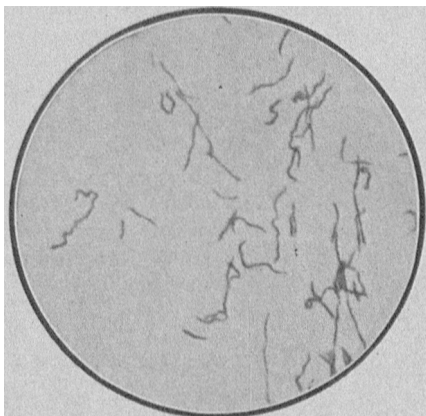


Fig. 1.—Vibrio and spirochete; culture from case of noma. Slide and culture by Dr. Ruth Tunncliffe.

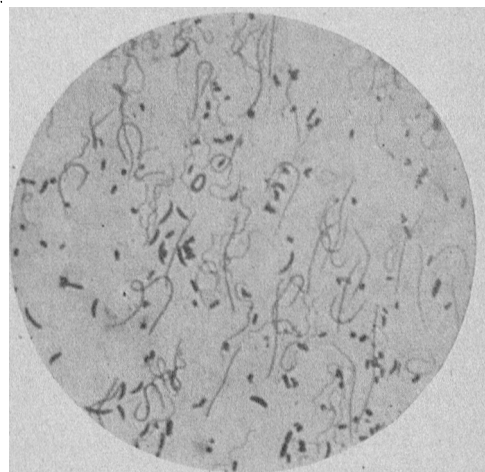


Fig. 2.—Etiologic factors in erosive and gangrenous balanitis.

complete there is no pain on urination; when, however, the urine is not able to pass freely and dilates the preputial sac, there is considerable pain.

The discharge is the most profuse in this type of the disease. By gently irrigating the preputial sac with sterile water and wiping the external urethral orifice we can easily exclude gonorrhea by having the patient urinate in two glasses.

In the majority of cases of balanitis gangrenosa there occurs a marked edema of the subcutaneous tissue of the penis which extends to the root and causes a marked phimosis. If the ulcer is situated on the inner surface of the foreskin it shows externally as a dark, bluish-red area within the surrounding bright-red inflammatory tissue. The congestion and abnormal pressure, due to edema, favor the progress of the disease.

Soon the foreskin over the ulcer becomes black, and a complete necrosis of the part occurs. If the ulcer is situated on the glans, in a short time it may produce complete destruction of the glans or may even cause an extremely rapid gangrene of the organ, which may extend even to the root of the penis, as may be seen by my fourth case.

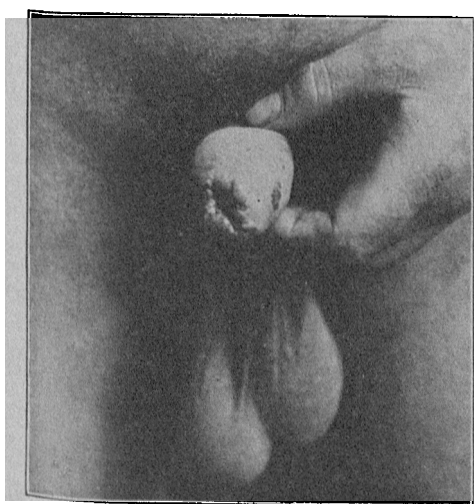


Fig. 3.—Erosive type, Case 1. Balanitis erosiva; foreskin not retracted; ulcers seen on margin.



Fig. 4.—Erosive type, complicated by syphilitic infection, Case 2. Foreskin retracted; grayish purulent secretion in sulcus coronarius and a few small erosions on the glans.

with a firm yellowish-white or yellowish-brown membrane, which is often edematous and swollen.

When more edematous this false membrane appears as a sort of friable slime. Here and there may be hemorrhagic spots which sometimes give rise to hemorrhages from the base of the ulcer.

The ulcers in these cases are deep, the edges sharp and perpendicular, the base grayish-green or brownish; or the penis may show hemorrhagic areas or be changed into a black necrotic mass.

The discharge at this time is more offensive than in the erosive type; it is grayish-yellow or yellowish-brown, and at times it may be slightly hemorrhagic, but always with the same characteristic odor. The inguinal nodes are enlarged; there is a mild grade of sepsis present. General malaise is marked. There may be vomiting and the temperature may reach 104. The tenderness of the part is extreme.



Fig. 5.—Erosive type, more advanced stage, Case 3. Foreskin retracted after dorsal incision; deep erosive ulcers with necrotic bases just back of the sulcus coronarius.

DIAGNOSIS

This disease is not so uncommon as one might suspect; unfortunately it is usually mistaken for chancroidal infection. The period of incubation may be the same in the two conditions; but with the characteristic thin yellowish-white, offensive discharge, in which one finds a vibrio-form organism and a spirochete, the diagnosis should not be difficult.

The ulcers of the two forms of infection may simulate each other very closely. In this form of balanitis, when the infection is at all severe, there is marked phimosis and considerably more inflammatory reaction. The enlarged inguinal lymph-nodes are painless, while with a very insignificant chancroidal sore a suppurating bubo is often present.

Chancroidal ulcers are, as a rule, multiple, but they do not spread with so great rapidity as do the ulcerative form of balanitis. Whereas the borders of the ulcers in both diseases have a clean-cut, punched-out appearance, there is greater tendency to undermine the wall in a chancroidal infection.

On account of the indolent adenopathy that accompanies balanitis erosiva, it must be differentiated from syphilis. In syphilis the period of incubation is longer, although the two infections may occur simultaneously, as reported in one of Scherber's cases, as well as in one of my own. When such a condition exists we may be compelled to defer our diagnosis of syphilis until the period of incubation for syphilis has elapsed; or in case of a mixed lesion the *Spirochaeta pallida* may easily be demonstrated by the dark-ground illuminator, and is so characteristic as to be easily differentiated from the spirochete of balanitis.

Herpes praeputialis always occurs as groups of small insignificant vesicles in which local reaction is mild or entirely absent. This condition simulates somewhat the mild form of balanitis erosiva, but in herpes one fails to find the organisms characteristic of balanitis.

TREATMENT

As a prophylactic measure, the practice of circumcision should be encouraged; it is absolutely impossible for balanitis to exist in a person who has been circumcised.

In many cases in which the condition is mild and the foreskin can easily be retracted, all that is necessary is a thorough cleansing; but in the mild ulcerative forms in which there is the slightest evidence of phimosis, a dorsal incision should be performed. As the organism of balanitis is anaerobic, this incision serves a twofold purpose—of admitting air and exposing the diseased parts for treatment.

The natural tendency in this disease is to burn all the sloughing ulcers, but such treatment subjects the patient to needless punishment. As said before, the organisms of the disease are anaerobic, and as hydrogen peroxid liberates oxygen when in contact with organic matter, it acts as a specific for this form of infection.

The ordinary 2 per cent. solution is sufficient, but in severe cases of gangrenous balanitis, 25 per cent. may be painted on the parts.

REPORT OF CASES

CASE 1.—Erosive type (Fig. 3), previously reported.¹

History.—The patient, M. M. W., aged 40, married, denied all previous venereal history. After four days' incubation the patient noticed itching and burning around the glans penis. There were no constitutional symptoms. During the first week this continued as a mild balanitis. The patient was able to

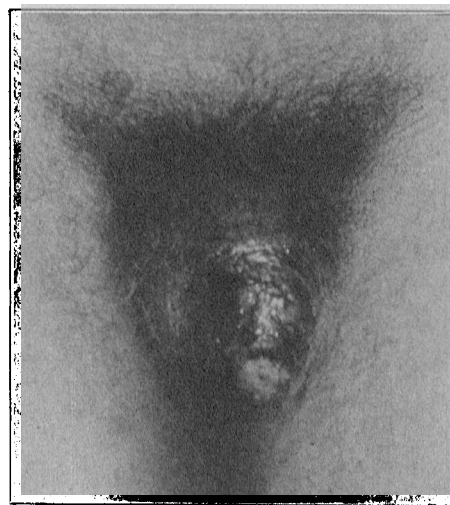


Fig. 6.—Gangrenous type, Case 6. Appearance on examination.

retract the foreskin. Treatment was neglected. At the end of the first week conditions suddenly became worse; the foreskin began to swell and the patient was unable to retract it. At this time he presented himself for examination.

Examination.—The general muscular development was good; there were no scars or evidence of previous venereal disease. The penis was swollen and edematous; the edema extended about half way up the shaft of the penis, giving it a pear shape. The skin over the glans portion was red and slightly injected. There was complete phimosis. Exuding from the opening was thin, yellowish-white pus, with a penetrating odor; in the pus a vibrio and a spirochete were found. There

was constant burning pain which was increased on the slightest pressure. There was no urinary pain. The dorsal lymph-cord was easily palpable; the inguinal nodes were enlarged but not tender. There was no fever.

Treatment.—With a small hand-syringe 2 per cent. hydrogen peroxid was injected every hour into the preputial sac. By the second day the foreskin could be retracted, showing numerous small ulcers with sloughing bases and sharp borders, involving the sulcus and the covered portion of the glans.

These healed rapidly under the above treatment.

CASE 2.—Erosive type, complicated by syphilitic infection.

History.—C. E., man, aged 19, single. No previous venereal disease; gives history of many exposures. Last exposure four days previous; unnatural relations. After six days of incubation, patient presented himself at my clinic at the Post-Graduate Hospital.

Examination.—Well-developed individual, general examination negative. Pulse and temperature normal. No enlargement of the lymph-nodes, profuse yellow discharge from the preputial opening. Moderate amount of phimosis present. Foreskin was retracted with little difficulty, showing numerous typical superficial erosive ulcers, both in the sulcus coronarius and on the glans penis. Complicating this, however, was a hard indurated erosive chancre seen just back of the corona on the patient's left side. The sulcus was filled with purulent discharge, as seen in Figure 4.

Here by examination with the dark-field illuminator it was possible to make a differential examination at once, for there were present the *Spirochaeta pallida*, the spirochete of erosive and gangrenous balanitis, and numerous vibrios. No other method could have given such prompt diagnostic technic.

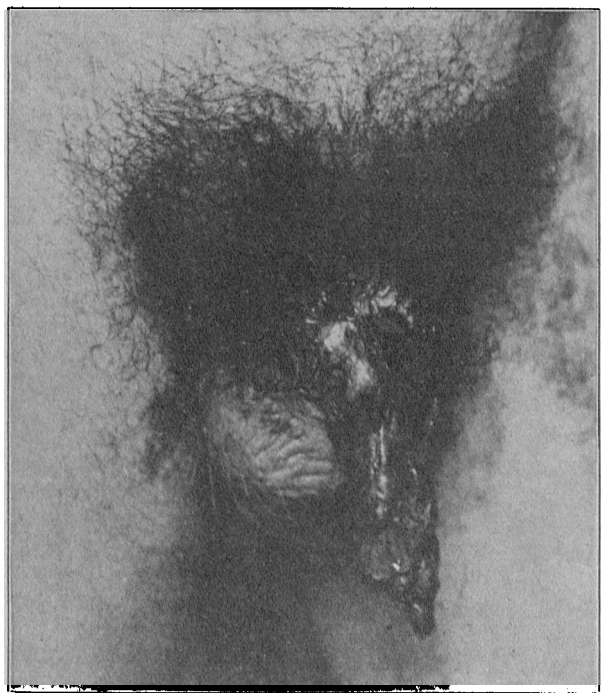


Fig. 7.—Gangrenous type, Case 6. Appearance forty-eight hours later.

Treatment.—Two per cent. hydrogen peroxid and salvarsan with prompt resolution of erosive condition.

CASE 3.—Erosive type, more advanced stage.

History.—F. P. E., man, aged 21 years, single, private patient. No history of any previous venereal disease, incubation six weeks, at which time unnatural relations were held with the idea of avoiding exposure by the ordinary channels.

Examination.—Large corpulent individual, general examination negative. Pulse and temperature normal. Considerable phimosis present, penis slightly swollen. Extreme tenderness on examination. Foreskin was not retractable; patient stated that during the month previous there was a little itch-

ing behind the glans, but that twenty-four hours before presenting himself for examination it suddenly began to swell and was extremely painful on examination. Profuse stinking discharge. Dorsal lymph-cord was palpable, slight painless inguinal adenopathy present.

Operation.—Dorsal and ventral incisions were performed, showing both superficial and deep necrotic ulcers present at borders of glans and sulcus coronarius, as seen in Figure 5. Numerous vibrios and spirochetes were obtained from the necrotic ulcers.

Treatment.—Two per cent. hydrogen peroxid, thorough cleaning with hand-syringe every two hours; prompt recovery; unable to obtain second photograph. There is no doubt that

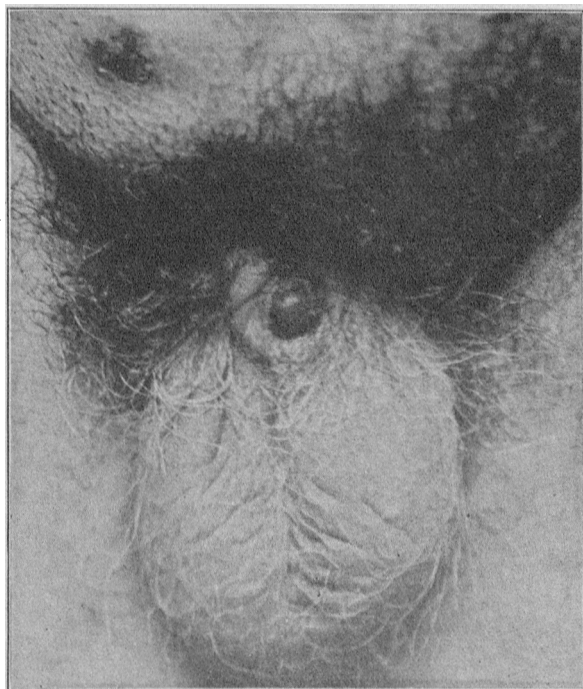


Fig. 8.—Gangrenous type, Case 6. Appearance five months after, showing small stump left.

this case would have gone on to gangrene had not prompt treatment been instituted.

CASE 4.—Erosive type.

History.—P. O. S., man, aged 26, history of previous gonorrhea. Unnatural relations were held thirty-six hours previously.

Examination.—Typical pear-shaped swelling of the penis, foreskin retracted. Whole of glans penis and sulcus coronarius covered with superficial ulcers, average size about the head of a pin, profuse purulent discharge, containing vibrios and spirochetes. Dorsal lymph-cord palpable; no adenopathy.

This patient was so slovenly and careless that after two days of marked improvement he discontinued treatment and had a recurrence with a later cure.

CASE 5.—Erosive type. Previously reported.

History.—The patient, M. W. M., aged 26, denied syphilis; had had a supposed chancreoid infection two years previously. Two weeks before presenting himself the patient had intercourse. After three or four days there was a little itching beneath the prepuce. At the end of six days he presented himself for examination.

Examination.—The temperature and pulse were normal. The general nutrition was good, and there were no signs of latent syphilis. There was a large indurated swelling of the penis. From the preputial orifice exuded a thin, yellowish-white, stinking discharge. This was examined for gonococci but none was present. There was phimosis, but it was not complete. With dilation, the little finger was gently passed between the foreskin and the glans. The whole covered portion of the

glans and the inner leaf of the foreskin were covered with small ulcers, having necrotic sloughing bases. Those on the inner leaf extended to the border of the preputial fold; by gently pulling back the foreskin the whole could be plainly seen. The dorsal lymph-cord could be plainly felt and the inguinal nodes were enlarged but not tender. There were no constitutional symptoms.

Treatment.—The patient was given a wash of hydrogen peroxid, full strength. As he did not return to the clinic, we presume that his condition was satisfactory.

CASE 6.—Gangrenous type, previously reported.³

History.—The patient, A. G. G., aged 43, denied all previous venereal history. He had had intercourse nine days previously, at this time, the patient said that the prostitute lubricated the labia with saliva. The following day the glans-portion began to swell; there were chilly sensations; no nausea or vomiting. Previous to this time the patient's glans penis was exposed between the preputial fold, and the foreskin could be retracted. On account of the rapid phimosis that developed this could not be accomplished later. The local symptoms increased rapidly; by the third day gangrene had set in.

Examination.—When the patient presented himself at the clinic he was well nourished; muscular development good. There was a slight septic intoxication. The entire preputial covering for a distance of 3 inches was one black, necrotic mass (Fig. 6). By gentle manipulation the necrotic mass could be drawn away and deep sloughing ulcers, with sharp borders, could be seen extending into the penis above the glans. There was considerable thin, slimy pus present, with an odor of necrotic tissue. Here we were able to find the organism in large numbers. The remaining portion of the penis was dark red and infiltrated, the edema extending to the root; the inguinal lymph-nodes were enlarged. The patient's temperature was 102; malaise was marked.

Treatment.—The patient was sent to the county hospital. Here the necrotic foreskin was cut away, and just above the glans-portion, at the site of the inner preputial fold, two deep ulcers could be seen. The glans-portion was necrotic. In forty-eight hours (Fig. 7) the entire glans-portion, together with about 1½ inches of the shaft of the penis sloughed off, leaving a short stump (Fig. 8). The patient was treated with irrigations of potassium permanganate three times a day, but the organism had already invaded the deeper layers and gangrene was unavoidable.

In the summer of 1912 I was permitted to exhibit in my clinic, from Dr. Sullivan's service at the Post-Graduate Hospital, an extensive case of gangrenous balanitis with destruction of one-half of the shaft of the penis. This had previously been treated with aseptic dressings and no organisms were found at the time I saw the patient.

At the present writing there is a case of gangrenous balanitis in the service of Dr. Oliver Ormsby at the Cook County Hospital.

Since reading Scherber's last publication, I am positively convinced that the same condition may produce distinct pathologic lesions in the female. Only recently I had under observation a patient with distinct erosions on the inner border of the labia minora with profuse foul-smelling acrid discharge.

I was able to find only the vibrio, but prompt and permanent healing was effected by means of tampons applied daily of 2 per cent. hydrogen peroxid.

It must be borne in mind that erosive and gangrenous balanitis only represents different stages of development in the same infection and that prompt treatment may often save an unfortunate person from the destruction of the whole or part of the sexual organ.

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THE DIAGNOSIS AND TREATMENT OF SEBORRHEIC KERATOSES OF THE LIPS

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The subject of seborrhea of the lip and its relationship to epithelioma has been admirably covered in a recent paper by Montgomery¹ of San Francisco, who also calls attention to the fact that concomitant functional hepatic embarrassment, chronic indigestion and the long-continued use of certain articles of food, particularly those rich in milk-fat, all have a deleterious influence on the skins of persons who are naturally predisposed to seborrhea.

The diseases commonly affecting the lips are relatively few in number. If one excludes lupus vulgaris and lupus erythematosus, both of which are comparatively rare in this region, at any rate in America, only six or seven disorders remain to be considered. Of these, pseudocolloid of the lips (Fordyce's disease), cheilitis glandularis apostematosa, cheilitis exfoliativa (Stelwagon's disease), seborrheic keratosis and epithelioma are the ones most frequently encountered. Of the general infections, syphilis is the most important.

Fordyce's² disease is "a condition which is characterized by the appearance of whitish or yellowish, scanty or abundant, discrete, aggregated, and often practically coalescent milium-like bodies, occurring more especially on the inside of the mouth, laterally along the line of the teeth as far back as the last molar, and possibly somewhat less frequently on the vermilion or mucous and inner surface of the lips."³ The disorder is harmless, gives rise to no subjective symptoms, and does not predispose to malignance; consequently its presence is rather of theoretical than of practical interest.

Cheilitis glandularis apostematosa, an affection first described by Volkmann⁴ in 1870, is an adenomatous condition of the mucous glands of one or both lips, histologically distinguished by enormous dilatation and hypertrophy of the ducts, and a great increase in the amount of glandular tissue, and clinically characterized by the presence of the widely dilated orifices of the affected glands on the mucous surface of the lip, giving to the vermilion border a peculiar, sieve-like appearance.

Until quite recently the condition was thought to be an extremely rare one, but, like many other cutaneous disorders, it undoubtedly occurs much oftener than it is recognized. Aside from the slight deformity to which its presence may give rise, and the inconvenience experienced by the patient in getting rid of the copious mucous discharge which is usually present, the condition in itself is not a serious one. In a single instance—and I have examined fully a score of cases—there was a concomitant cancerous growth at the mucocutaneous juncture, near the corner of the mouth. The patient, a man under the care of my associate, Dr. Kanoky, had been troubled with seborrhea for many years, and the border of the lower lip presented not only a well-defined case of cheilitis glandularis apostematosa (two daughters also were affected with this disorder), but cheilitis exfoliativa

1. Montgomery, D. W.: Seborrhea of the Lower Lip and Its Relationship to Epithelioma, Jour. Cutan. Dis., February, 1913, p. 82. See also Montgomery, D. W., and Culver, G. D.: Influence of Milk-Fat on Skin, Jour. Cutan. Dis., June, 1912, p. 310.

2. Fordyce, J. A.: A Peculiar Affection of the Mucous Membrane of the Lips and Oral Cavity, Jour. Cutan. Dis., 1896, xiv, 413.

3. Stelwagon, H. W.: Diseases of the Skin, Philadelphia, 1910, p. 1164.

4. Volkmann: Virchows Arch. f. path. Anat., 1870, I, 142.