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Ulcerating granuloma of the pudenda caused by Donovan's bodies (an intracellular capsulated microörganism of the Friedländer group of bacilli) is a relatively rare condition in this part of the United States.

Because of the question of the exact etiology and epidemiological significance of the condition as well as the reported higher incidence of the disease as it occurs in the United States among Negroes, these cases seem worthy of reporting,—hoping thereby to keep before the attention of the general practitioner as well as hospital and social agencies the possibility of another venereal disease which seems to be increasing and must be considered in our preventive and curative programs.

Between October, 1931, and June, 1932, there were 5 cases of clinical granuloma inguinales treated at the Freedmen's Hospital. In 4 of these cases, the Donovan bodies were found by bacteriological examination of scrapings from the over-hanging edges of the ulcerations. The fifth case although resembling granuloma inguinale clinically will not be reported in detail because the Donovan bodies were not found in the lesion.

Case I. Miss M. N., Negress, thirty years of age, a domestic, admitted to Freedmen's Hospital October 14, 1931.

The past history is essentially negative except that she was born in Charles County, Maryland, and has lived in the District of Columbia for twenty-four years. She has made several visits out of town but no further south than Richmond, Virginia.

She complained of: (*a*) Pain in the lower part of abdomen on both sides but worse on the left side; (*b*) ulceration about external genitalia;

(*c*) pain and burning on urination; (*d*) a yellowish discharge from the vagina which has recently become brown in color.

Present illness. About six years ago after some weeks of dull pain in the lower right quadrant of abdomen she had an acute attack with sharp, shooting pain beginning in the lower part of abdomen and traveling down each leg to the toes worse in the evening and after standing on her feet. This attack quieted down but she has had several almost similar attacks since. About this same time (six years ago) the patient noticed a tender but non-painful ulceration in the region of left side of vulva. The ulceration progressed and became more tender and began to itch and to be irritated by urination which caused burning and pain.

She visited several hospitals within the last six years and had received local and intravenous therapy. There have been times during the six years when the lesion has healed in part but never entirely.

Physical examination. The physical examination upon admission shows a fairly obese young Negro female; varicose veins of the right leg. The important findings were confined to the lower abdomen and region of external genitalia. Bilateral tenderness and spasm in both lower quadrants of abdomen with history of accentuation of pain during each menstrual period.

Serpiginous ulceration in the genital region beginning about the middle of Poupart's ligament on the left and extending down on the left side of the labia majora which was partially slough off. There was near the posterior fourchette a break in the ulceration where the skin looked fairly normal for about one and one-half inch after which another ulcerated area began extending back around the anus. There was some slight ulceration on the right side of vulva but not very extensive. The diagnosis was made of Bilateral Salpingitis and granuloma. The bacteriological examination showed Donovan's bodies and many other associated organisms but no gonococci.

A biopsy from left labia minora on October 20, 1931, gives the following pathological report: "This section is partially covered with squamous epithelium but the epithelial cells are situated in their regular order. There is no tendency toward proliferation into the epithelial area and therefore it shows no signs of malignancy. The tissue beneath is rather dense and contains a few inflammatory cells which are edematous, with the exception of the infiltration of the inflammatory area and the increase in connective tissue this section is negative."

The blood examination was negative. The urine showed epithelial cells; some amorphous elements and small trace of albumin. A catheter specimen was not taken.

Treatment. The patient was treated locally by potassium permanganate 1:5000 solution and by x-ray therapy. The most frequent complaint while in the hospital was the intense itching.

The patient was discharged to the outpatient department November 13, 1931. The salpingitis had quieted down but the granuloma lesion did not seem to be any better. She now returns weekly to the outpatient department for neosalvarsan and x-ray with apparently some slight improvement which however, is very slow.

Case II. J. L., a single Negro male, aged twenty-two years, occupation table waiter, of Charlotte, North Carolina, walked into Freedmen's Hospital outpatient department December 18, 1931, and was admitted with a diagnosis of granuloma inguinale.

The past history, except for an attack of gonorrhea four years ago during the course of which a swollen inguinal gland was removed, is essentially negative. He was treated for the gonorrhea at that time until clinically cured.

Present illness. About six months ago the patient noticed a small non-painful lesion on the head of the penis which was about two weeks after an intercourse. The patient had one more intercourse even after the lesion appeared. This seemed to cause it to spread, extending over the tip of the head of the penis around the side of the head of the penis and over the scrotum. He was treated by L. M. D. during the last six months who gave him ten injections of neosalvarsan. In spite of this treatment the ulceration continued to progress and even more rapidly during the last four months.

He stopped at the University of Virginia hospital (the day before admission here, December 17, 1931) where a tenetative diagnosis was made of granuloma inguinale and urethritis although the Donovan bodies were not found. No gonococci were found.

Physical examination. On admission general examination showed a well developed and nourished Negro male with no obvious general signs to portray the condition. Local examination showed the penis extremely swollen and ulcerated, foreskin was retracted and could not be brought forward. Ulcers were prominent on the under-surface of the penis. Fistulae were present on the under surface of the gland penis so that a double stream formed when urinating.

The scrotum was about the size of a medium-sized grapefruit. Ulcerations extended from the under surface of the penis about one-third way down the sac. Ulcer indurated and granular with a large amount

of granulation tissue. A discrete papular eruption was present over all parts of the scrotum and on palpation testes, epididymus and spermatic cords were normal. The scrotum shows a large amount of fluid but not greatly distended. The inguinal region shows presence of scars due to previous removal of some of the inguinal glands.

The blood examination including the Wassermann was negative. Urine examination shows epithelium cells and positive test for indican and bile. Bacteriological examination shows Donovan bodies.

Pathological report on biopsy in part is as follows: "The sub-epithelial tissue consist of strain of connective tissue with a scant amount of collagen separated by areas of dense infiltration of mononuclear cells. Here and there in the less dense areas of infiltration are spherical non-nucleated and vacuolated bodies slightly larger than a red blood cell. Polymorphonuclear leucocytes are seen in areas of ulceration and in one or two sub-epithelial areas. An occasional eosinophilic leucocyte is seen throughout the section. Pathological diagnosis: Subsacute inflammatory lesions, probably granuloma inguinale. Together with the bacteriological report of Donovan bodies. Final diagnosis: Granuloma inguinale."

Treatment. Patient started on intravenous injections of 5 cc. of a 1 per cent solution tartar emetic and increased gradually to 10 cc. given at weekly intervals with salvarsan 0.2, 0.3, 0.4 gram weekly but on different days.

After receiving nine injections of salvarsan and ten injections of tartar emetic the patient was very much improved. The lesions were not entirely gone but the patient desired to get home and was discharged against the advice of the visiting staff.

The local condition was washed twice to three times daily with warm potassium permanganate 1:1000 dilution with occasional applications of Tr. iodine to ulcers. Discharged April 4, 1932.

Case III. W. L., a single Negro male of Alexandria, Virginia. Occupation, laborer, aged twenty-five years, was admitted to Freedmen's Hospital, February 17, 1932, with the admitting diagnosis of granuloma inguinale.

The past history was essentially negative except for history of occasional alcoholism, a rather permiscuous sex life and admission of gonorrhea in 1926 at which time there was a lesion on his penis which cleared up during the three weeks he received "shots" in his arm at weekly intervals ("three shots in all"). He had another attack of gonorrhea in July, 1931, which brings us to the present illness.

Present illness. In July, 1931, he contracted gonorrhea and was treated by a local druggist without any obvious improvement. He now has a positive gonorrheal urethritis. About three months ago the patient developed an enlargement in the left groin which continued to enlarge, becoming tender and painful, finally ulcerating within about one month after its beginning. The ulceration has continued in spite of local treatment until now he has a very large ulceration with some slight discharge, from some of the ulcerated areas. His chief complaint therefore, on admission was "I have a sore in my groins."

Physical examination. The chief physical findings are enlarge nontender, posterior cervical glands, a slight urethral discharge and the local conditions described as follows:

The right inguinal glands are very much enlarged but not ulcerated. The left inguinal region shows a large coalesced ulceration which extends from the left anterior iliac spine down over the upper inner thigh to the region of the left ischial tuberosity.

Bacteriological examination shows marked secondary infection with Gram positive cocci and rods along with the Donovan bodies. No biopsy was done.

Blood examination was negative including the Wassermann. Urine negative except a few epithelium cells.

Treatment. The patient was placed on tartar emetic 1 per cent solution intravenously every other day beginning at 2 cc. and increasing 1 cc. each time until 10 cc. were given at one time. He was given eight injections of tartar emetic.

This was supplemented by x-ray treatment once per week and dressed locally with warm magnesium sulphate solution.

Very much improved with lesion practically healed he was discharged on March 16, 1932, to the outpatient department.

Case IV. J. C., a married Negro male of Washington, D. C., occupation cook, aged thirty-eight years, was admitted to Freedmen's Hospital June 6, 1932, with the admission diagnosis of granuloma inguinale.

Past history negative except for occasional alcoholism and some extramarital sexual intercourse. One attack of gonorrhea during the war, 1918–1919, with no symptoms since that time. He has not been any farther south than Virginia for thirty years.

Present illness. In August, 1931, a short while after one of his extramarital sexual relations, he noticed a small non-painful pimple in the right groin. He did not have any further sex relationships with his wife

after the appearance of the lesion. This lesion has continued to enlarge and has now begun to be painful.

Physical examination. General examination, negative. Local examination; a continuous area of excoriation and ulceration in the right groin which extend between the legs, over side of scrotum. It has now a definite foul odor and is tender and painful.

Bacteriological examination shows numerous Donovan bodies as well as scondary infection.

Blood examination negative including Wassermann. Urine examination negative.

Treatment. Placed on intravenous injections of 1 per cent tartar emetic solutions, June 8, 1932, beginning at 2 cc. and increasing 1 cc. each day until 5 cc. are given at one dose, then increasing 1 cc. every other day until 10 cc. are given at a dose. Neosalvarsan is given weekly and the lesion dressed each day locally with 5 per cent solution of copper sulphate.

The patient is very much improved at this writing. The lesion is healing rapidly and the patient has no discomfort. He is, however, still in the hospital.

Some of these reports are preliminary and must have a follow-up by our social service agency.

Case V. F. W., a Negro male, occupation laborer, will not be discussed because the etiological agent could not be found although the condition resembled that of case IV clinically.

DISCUSSION AND SUMMARY

Three cases of granuloma inguinale in Negroes who had not been out of the United States were reported from St. Louis by Grindon (1) (1913), but it was not until the report of Symmers and Frost (2) (1920) that the disease with its proved etiology was shown to occur in individuals who had not been out of the United States. Most of the reported cases have been among Negroes but Croker (3), has observed the condition in white individuals.

The exact nature of the etiological agent is still debated. While some agree with Donovan (4) that it is a protozoan and some with Flu (5) that it is a chlamydozoan, there are others among whom are many of the more recent writers who agree with Walker (6) that it is a member of the Friedländer group of bacilli.

None of these cases here reported have been out of the United States. While most of them are from the Southern States, the fact that all of them were treated in Washington, D. C., the nature of their employment and the lack of the disease to incapacitate one for travel and work causes us to realize that the disease is no longer one that can be thought of as being confined to the Negro of the Southern States.

The predominance of males in our small group differs from the usual repeated percentage as recorded by Stitt (7) and Sutton (8).

There is a significant history of gonorrhea either proven or by symptoms in these cases,—the condition appearing to be a related sequelae, the infection occurring at the same time as the gonorrheal infection.

The high percentage of the disease among Negroes is in all probability due chiefly to the lack of personal hygiene and the fact that the disease appears to be endemic among them and not to an inherent racial susceptibility.

Of the various methods of treatment we found that tartar emetic alone or in combination is by far the best and may justly be called a specific for this disease. We cannot, however, make a final report as to permanent cure.

Donovan bodies disappear from the lesion within about two weeks after beginning treatment with tartar emetic. The negative serological test for syphilis together with the failure to improve on salvarsan alone are additional means of differentiating it from syphilis.

I wish to express thanks to Dr. Robert Frank Jones and Dr. Henry Honeyman Hazen of the Freedmen's Hospital staff from whose service these patients were studied.

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