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Clinical Department.

TWO CASES OF GONORRHEAL RHEUMATISM WITH SPECIFIC BACTERIAL ORGANISMS IN THE BLOOD.

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In March, 1894, I made bacteriological examinations of the blood of four patients with gonorrheal rheumatism. In all the cases the affection was polyarticular, accompanied by some fever; and an urethral discharge containing gonococci was present. Repeated cultures were taken from the blood, with careful aseptic precautions. The culture media used was a preparation compounded by Dr. J. H. Wright, assistant in pathology at the Harvard Medical School, upon which he had succeeded in growing the gonococcus. In three cases the result was negative; no colonies were obtained from the blood upon repeated cultures. In one case bacterial organisms of a specific nature were found to be present in the blood in repeated examinations. This case, with the permission of Dr. F. C. Shattuck, I report.

CASE I. M. D. entered Ward 31 of the Massachusetts General Hospital March 14th. He gave the following history:

One month ago he caught a severe cold. Four days later his left knee and ankle became painful, swollen and red; some edema of leg. Next day his right thumb and ankle were affected. The trouble in the joints increased; he felt prostrated and feverish, and sweated considerably.

September 23. Entered Ward 29, surgical, at the Massachusetts General Hospital. At this time the left knee and ankle were swollen, red and tender; the

left shin edematous; the right thumb and right ankle slightly swollen.

March 4th. While in ward, developed a keratitis of both eyes.

March 14th. Transferred to medical wards.

He had never had rheumatism before. Gonorrhea eight years before. Had had connection with a woman five weeks before onset of present attack, but had noticed no discharge from urethra or painful micturition.

His examination upon entrance to Ward 31 revealed the following: appears very sick, dull and prostrated. Phalangeal joint of right thumb slightly swollen and tender, not red. Left knee tender and much swollen; fluctuation present; girth $15\frac{1}{2}$ inches (right knee $14\frac{1}{2}$ inches); patella floating. Left ankle swollen and tender, not red. Discharge of puriform material present at urethral meatus, which contained gonococcus upon bacteriological examination. Heart negative. Chest negative. Temperature 102° . Pulse 95.

March 16th. The patient has continued dull and feverish, the temperature at night running between 101° and 103° . Salicylate of soda, given in full doses for three days, seemed to have no effect upon the joints or fever.

March 17th. Right knee became painful and swollen. On this day a culture was taken from the blood upon the special media. A control culture was taken upon glycerine agar at the same time. At the end of forty-eight hours several minute whitish colonies appeared upon the specific media. These colonies, upon microscopical examination, proved to be composed of a biscuit-shaped diplococcus resembling the gonococcus of Neisser in morphology and reaction to staining reagents. Colonies transferred to blood-serum, agar and gelatine media failed to reproduce. Colonies transferred to the specific media upon the first day reproduced; those transferred later did not.

No colonies were obtained upon the glycerine-agar culture from the blood.

The patient continued to show signs of general infection. The temperature remained continuously above 100° , rising to 102° – 103° . The right ankle-joint, the phalangeal joint of left great toe, the right wrist, the metatarso-phalangeal joint of right little finger became involved in turn.

April 1st. The process began to subside; no new joints became involved. The affected joints continued stiff and somewhat swollen, but gave no more signs of an acute process. No urethral discharge present. Temperature still between 99° and 101° .

May 1st. Temperature normal for first time. Joints stiff, and much evidence of chronic thickening present.

Discharged May 7th.

Cultures from the blood were taken March 20th and 24th and April 1st. In the first two cultures, colonies were grown similar in all respects to those described in the account of the first culture. No growths were obtained from the culture of April 1st.

In August, 1894, I made examination of the blood of five patients with gonorrheal rheumatism. The cultures were made upon the acid gelatine media of Trurro. An urethral discharge containing gonococci was present at the time the cultures were taken in all cases. In three cases no colonies were grown from the inoculations. In two, specific bacterial organisms were grown from the blood in repeated cultures; and

in the more typical case of the two the character of the organism was tested by inoculation into a bitch. This case, with Dr. E. G. Cutler's permission, I report.

CASE II. G. A. entered Ward 7 of the Massachusetts General Hospital August 20th.

Five days ago he was kicked by a mule in the left hip, the kick knocking him over. Got up feeling all right. Next day, left hip and groin very stiff and painful. Next day, left hip better, but right hip and groin painful and stiff, with shooting pains up into loin and down thigh. He has passed bloody urine on several occasions since accident, but not upon every micturition. No pain on micturition or defecation. Three days ago both eyes became injected and painful, with sticky discharge. No chills or chilly sensations; no headache; no vomiting. Bowels all right. No pain in chest or belly. He has had gonorrhea about a month, and still has discharge from urethra.

Examination showed patient to be well nourished, but with a dull and heavy aspect. Both eyes injected and sore; puriform secretion in the inner canthus of both eyes; cornea clear; pupils equal and react. Tongue clean and moist. Heart and lungs negative. Abdomen soft. Slight tenderness in left groin. Bladder not distended. No buboes. Spleen felt below costal border. No paresis. Knee-jerks present. Moves hip-joints with pain, especially right hip. Tenderness and slight swelling over right Scarpa's triangle. Tender over right iliac crest and right half of sacrum. No tenderness over sciatics. Second joint of second toe, left foot, swollen, red and tender; also metatarsal phalangeal joint of great toe, with edema of dorsum of foot. Urethral discharge, which contains gonococci. No perineal tenderness. Urine smoky; specific gravity 1.019; albumin one-fifth per cent.; considerable sediment, much normal and abnormal blood, pus-cells, caudate cells, a few hyaline and granular casts, no bladder epithelium. Temperature at entrance 102.8°.

The temperature continued high, rising to 104° on the second day. The spleen became larger. Patient had a good deal of pain in sacrum and right hip.

On the fourth day right knee tender and painful. Next day boggy and swollen, and a culture was taken from the blood.

On the third day after, several small colonies appeared upon the media. The colonies had a slightly yellowish tinge; did not tend to spread. Transferred to agar, blood-serum and gelatine media, they failed to reproduce. Transferred to acid gelatine, they reproduced. The organisms composing the colonies were biscuit-shaped diplococci, resembling the gonococcus of Neisser in morphology and reaction to staining reagents.

The signs of general infection in the patient continued. The temperature remained between 101° and 103°. The spleen could be felt enlarged. The right wrist-joint became tender and swollen; then the right shoulder, the left hip, the left knee. The knee-joint was much swollen, the patella floating. In other joints, swelling not extensive.

September 5th. The left eye became inflamed, and a keratitis set up. The left wrist painful and swollen.

September 17th. The above-mentioned joints all still somewhat swollen and tender and very stiff. Right eye became injected, and keratitis set in.

October 1st. No acute joints present. Knees and wrists still swollen and stiff. Urethral discharge still present. Temperature between 99° and 101°.

Cultures were taken from the blood on August 25th (as described), on August 30th, September 4th, 8th and 20th. Upon all occasions except the last, colonies were obtained similar to those described in the account of the first culture taken August 24th. The colonies of August 30th were reproduced to the fourth generation, and this growth inoculated to the vaginal mucous membrane of a bitch. Thirty-six hours later a thin, puriform discharge was visible at the vaginal orifice and upon the mucous membrane. A bacteriological examination of this discharge revealed the presence in it of the biscuit-shaped diplococcus, both within and without the pus-cells. Distinct colonies of the diplococcus were also obtained by culture from the discharge. A second inoculation was made from the fourth generation of the culture of September 4th upon the urethral mucous membrane of a bitch, with a similar result. The inoculation in both trials was made by smearing the membrane. Cultures were taken on several occasions from the discharge from the eyes during the keratitis, and no diplococci were grown, nor were they found on slides made from the pus.

The marked feature of these two cases in which organisms have been found is the prominence of the signs of general infection and constitutional disturbance. The condition in both cases was distinctly typhoidal; in fact, the second case was at first considered to be typhoid. The spleen was distinctly enlarged in the second case. The range of temperature was much higher than is usual in gonorrheal rheumatism. In fifty-three cases of this affection at the Massachusetts General Hospital, of which I have examined the records, the temperature reached 103° in but four, and the average of the maximum temperatures of all cases was 101°; while in these reported cases the temperature reached 103° and 104° respectively, and remained between 101° and 103° for a week at a time.

Reports of Societies.

CLINICAL SECTION OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

HENRY JACKSON, M.D., SECRETARY.

REGULAR Meeting, Wednesday, October 17, 1894, DR. F. C. SHATTUCK in the chair.

DR. C. G. CUMSTON read a paper on

THE TREATMENT OF THE SO-CALLED INCURABLE PURULENT PLEURISIES, BY PROFESSOR REVILLIOD'S METHOD.¹

DR. VICKERY: Does that long tube stay full of liquid all the time and so exert a constant siphonage, or is the main pull by means of the bulb. I should think *a priori* that in a great many cases there would be leakage enough of air round the tube in the purulent chest so that the long column of fluid would not be sustained throughout the twenty-four hours.

DR. CUMSTON: Once the tube inserted and the adhesive plaster applied, I have always found that it closed hermetically around the tube. The suction is entirely produced by the bulb, the strength of which is governed by the height of the incision above the flask, according to physical law.

DR. C. P. PUTNAM: I should like to know if, when

¹ See page 502 of the Journal.