

ing a few points that are familiar to all of you, with certain qualifications which I believe to be consistent with the views expressed in this paper.

1. The discharge from urethritis—the virulent form especially—if confined by a tight prepuce causes varying grades of inflammation and infection from slight balanoposthitis to destructive ulceration, and even suppurative bubo. The pus from both the sub-preputial process and the resulting bubo may be auto-inoculable, producing ulcers which, if not identical with—and the microscope does not as yet help us here—are clinically similar to chancroid. This is especially true if auto- or hetero-inoculated upon cachectic subjects.

2. The long-continued contact of these sub-preputial secretions causes papillary over-growths—venereal warts and indurating edemas. The discharges of pregnancy, syphilitic lesions, gonorrhea and chancroid produce similar results.

3. Chancroid of the urethra is attended by urethritis of greater or less severity, not typically gonococcal always, it is true, but often so, and then attributed to double infection.

4. Gonorrhea and chancroid are often associated in the same patient under circumstances which are suggestive of the contraction of the one disease from the secretions of the other.

5. Gonorrhea and chancroid are contracted most often from the same class of women—often from the same woman. The higher class prostitute very rarely infects with chancroid and exceptionally imparts gonorrhea.

Women who have infected numerous men with gonorrhea and chancroid, singly or combined, are often found upon examination to have neither disease, so far as our present means of research enable us to determine. They are usually unclean, however. Such women are often merely media for infection, it is true, but this can hardly explain all cases. Latent infection explains some, but it is questionable if it explains everything save mediate infection.

7. Suppurative adenitis is common to all genital lesions, be they specific or simple. That the everyday explanation of this fact is mixed infection I am well aware.

8. It is often a very difficult matter to determine where simple genital ulcer ends and chancroid begins. The test of auto-inoculation is hardly fair, as it is a test merely of the degree of virulency of the secretion. Auto-inoculation does not succeed in the later stages of chancroid, and the results in any given case vary in virulence.

9. The natural tendency of chancroid is to lose its specificity after a time and assume the character of simple ulcer. Boeck's fatuous method of so-called syphilization demonstrated this point beautifully. A similar and more marked evolution and involution should occur spontaneously under natural conditions. I maintain that this spontaneous change in chancroid proves the position I have assumed regarding the evolution of the disease. The involution of the disease necessarily represents an antecedent evolution. If this be not true then the entire scheme of evolution falls to the ground. If evolutionary adaptation did not control infection, the comparatively benign infections would be malignant and fatal. The difference between benign and malignant germ infection simply is in great measure that mutual adaptation is a success in the case of the germ and cell in the one instance and a failure in the other.

There are many puzzling clinical facts bearing upon gonorrhea, which should inspire us with caution in diagnosis. In a number of instances in which patients have

been said to have deep-seated gonorrhea with gonococcal semen, I have been able to prove the non-specificity of the apparently typic gonococcus by culture and inoculation. In one case the gonococcus had been found in the semen by no less than seven competent men. The explanation in this case is a purely evolutionary one. The gonococcus had been shorn by adaptation of all its pathogenic properties, whilst retaining its physical characteristics. The final product, however, might, if deposited on suitable—i. e., filthy—soil, again evolve into a specifically pathogenic microbe.

It is noteworthy that a man with latent gonorrhea may infect his wife with typic pelvic infection. Inter-course being renewed later, the wife imparts to the husband a typic, virulent gonococcal urethritis. Here is a very striking illustration of germ adaptation. Another pertinent fact is that women with latent gonorrhea, or recently infected by active gonococci, may have no symptoms until the onset of the menstrual period. Coincidentally with the change in soil due to congestion of the sexual tract, acute infection occurs. This is an important germ evolutionary evidence.

A thorough and radical change in scientific thought and research method must occur before such views as I have expressed in this paper can be established on a sound basis, and, so long as our present cut-and-dried methods of laboratory research prevail, not one step will be taken in the right direction. The "circle" of Koch was a vicious circle indeed. No student's examination has been complete without a knowledge of it, yet I venture to assert that it has done almost as much to retard true scientific research as it has to further it. Its range of application has been so narrow as to emasculate it, yet has it dominated pathologic research. Its several test points have failed in numerous kinds of indubitably specific disease. It has been found that the old view of special susceptibility to disease and of a *locus minoris resistentiae*—which we had all but thrown in the waste basket—must needs be revamped for modern etiologic necessities. As already outlined, it has been found that not all so-called specific microbes are susceptible of pure culture. Some germs have been shown to be inactive pathogenically save when mixed with other germs. Germs which are ordinarily innocuous have been found to become pathogenic under certain special conditions. Most disease germs are effective through the poisons they create, and not of themselves.

I reiterate these points merely to emphasize the fact that the germ is not only not all, but is a small part of what we must learn of etiology and pathology. In conclusion, I will state it as my belief that the etiology and pathology of infectious diseases of the future will stand, not upon the germ but upon the myriad of conditions yet unknown that lie behind the germ. The germ bears the same relation to the true etiology of disease that the cosmogony of Moses does to the universe. It crudely attempts to explain but a small part of a great whole.

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## Clinical Reports.

### ACUTE CHOREA, RECOVERY.

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F. O. B., male, aged 31, single, with no particular occupation, but having worked in a wood planing-mill in Massachusetts, entered the New Hampshire State Hospital, Concord, N. H.,

Oct. 9, 1901. He had not been well for four weeks. In the history of the case it was intimated that he had been a little odd since childhood—not quite as adept a scholar as some of his chums. His family medical attendant said the only severe illness that the patient had ever had was enteric fever, 15 years ago, from which he made a perfect recovery.

*Physical examination* showed height, 5 ft. 6¾ in.; weight 122 pounds; poorly nourished; pulse 68; tongue slightly coated; complexion pale; pupils somewhat dilated, but equally, reflexes normal. There was a peculiar dragging to left leg on walking, which was said to be congenital. It is said that his mother, while pregnant, was frightened by a man who had just such a gait. The reflexes of skin and abdomen were absent; cremasteric, delayed but present; tendon, right, exaggerated; knee-jerk, left, absent; wrist and biceps, absent. Bodily symmetry was fairly good, lungs normal, heart somewhat enlarged, murmur heard at the apex—mitral regurgitant—clearly heard at angle of scapula on left side of back, and the abdominal organs were in normal condition.

*Psychic Condition.*—There is no history of nervous disorder, insanity or tuberculosis in the family. The patient's habits have always been good, and his conduct well behaved; in temperament he is slightly nervous, and somewhat agitated, and his expression is anxious. Attention and memory were good, both in regard to past and present affairs. His ideas were somewhat retarded, but not to a noticeable extent. He had no delusions, hallucinations or illusions. Before his admission he was at home for a short time and was troublesome. His parents were afraid of him as they had never seen him in this condition. He was ransacking around the house generally, overturning chairs, tables and other articles of furniture, so it was deemed expedient to send him here.

*On admission* the patient was placed in bed. He was very nervous, moving and twisting around continually, looking first in one direction, then in another. Says he feels perfectly well, but is unable to keep quiet. When eating, crumbles up his food and amuses himself by making a line of crumbs around the edge of his bedspread. Sleeps fairly well. There is a good deal of involuntary muscular twitching, seen perhaps more clearly in the left hand than elsewhere.

*October 22.*—The patient continues to be very nervous, going through all kinds of antics or choreiform movements with his hands and feet, first lying down and then suddenly sitting up, then lying down will go to sleep for a time. These movements are more definitely manifested in the left hand, although the right is involved. When awake he can not control these movements, the fingers being continually in a state of agitation. After lying in bed for a few days he was allowed to dress and sit up, but being restless was returned to bed. When lying perfectly quiet the muscular twitchings were plainly visible over different parts of the body. He has been eating very well. While taking his food he does considerable juggling with his knife, fork and dishes, and makes all sorts of grimaces. He shows a little improvement.

*November 4.*—The patient is now able to lie perfectly quiet and manifests no choreiform movements except occasionally when a little excited. A few days ago it was impossible to keep his bed made up. He now keeps the same in splendid order.

*November 8.*—The fingers can be controlled perfectly—no movements over any part of the body. He is looking fine physically, is gaining fast, and has shown wonderful improvement.

*December 10.*—He was allowed to attend the dances, but the excitement and music were more than his nervous condition would admit, so he desisted from this pleasure. He has taken outdoor exercise and enjoys it very much.

*Conclusion.*—The patient made a splendid recovery after an illness of 12 weeks.

*Treatment.*—After admission a tonic was prescribed—nucis vomica, m. 10; tinct. gentian co. 31, t. i. d.—which was administered for a few days. On October 22 this was discontinued and Fowler's solution was given with 5 drops as the initial dose t. i. d.; this was increased by one drop daily until the dose was

15 drops t. i. d. There were no symptoms of arsenical poisoning. From this point, a decrease was made until 10 drops were reached. Then the solution was discontinued. No other medicinal agents were used except an occasional laxative to keep the bowels in good order.

The food was plain and nutritious, a goodly amount of milk being taken, but very little meat eaten. Eggs in the form of eggnog were freely administered. After convalescence was established, liberal quantities of good New Hampshire air was indulged in.

The rapid recovery of this case shows that Fowler's solution, judiciously used, with rest, quiet and a light nutritious diet, is an excellent treatment in cases of acute chorea.

## TWO CASES OF PERIPHERAL GANGRENE ASSOCIATED WITH LOCALIZED DIS- EASE OF THE ARTERIES.

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### HISTORY OF CASE ONE.

*CASE 1.*—By Dr. Sherman. The patient is a man aged about 40. He has had no serious illness since childhood, when he had an attack of scarlatina, following which he was unable to walk for four months. He has not had syphilis. He has some dry eczema upon his forehead and about the joints. He eats well. His bowel and bladder functions are normal and he sleeps well. He has no sugar nor albumin in his urine.

He gives a long account of the conditions which led to the removal of his left leg. About 1878, when it was the fashion to wear low shoes with large buckles, he had a severe pain at the top of the left instep and so discarded his buckle shoes. For some time he was then free from pain, but after awhile it returned with greater severity; it was thought to be rheumatism and for this he was treated. For seven years he had this pain, with intermissions; but the intermissions became shorter and fewer and the pain, when present, became more severe. Apart from this pain his health was good.

In October, 1896, he was suffering greatly and at that time he thought he had an ingrowing big toenail. He was treated by a chiropodist, and the result was a wound which would not heal, but became septic and finally necessitated the amputation of the big toe. The stump, however, did not heal and the local and general septic condition became worse. An incision was made on the dorsum of the foot; this partly controlled matters, in that the general symptoms subsided, but the local condition continued and he lost all the other toes, except his little toe. There was a pause here, but not for long. In April, 1897, an ulcer appeared upon the instep; this ulcer would not heal and it was decided to curette it. This little operation disclosed such fragile bone and this condition was found to be so extensive, that an amputation was done five inches above the ankle. This stump also did badly and two months after the amputation quite a sequestrum was discharged, and later, when the soft tissues contracted, the bone protruded and another amputation became necessary, four more inches of the leg being removed. This stump followed the course of the others; an ulcer persisted which would not heal under any treatment until hot-air baths were tried: under them it nearly closed so that an artificial leg could be worn.

The patient then went to Nome. His stump became worse and his right foot began to pain him, there being a sensation of intense cold in the sole. This was persistent and irremediable and he returned to California. Here he began the hot-air baths for his stump and the ulcer fully healed; but the right foot became worse, pain being complained of in the sole and instep. For these pains an insole was put in the shoe to support the instep, but without relief. At this time he got a small corn on the little toe and treated it himself. This