

Clinicians have seen cases of locomotor ataxia in husband and wife, and all clinicians in the field of mental disease have seen husband and wife present general paresis. Conjugal syphilis, conjugal general paresis, conjugal tabes, and conjugal optic atrophy are common terms. In these cases generally the wife has contracted the disease in wedlock from her husband. In nearly all such cases, as is a common observation in the syphilis of married women, there is no history of a primary lesion, and secondaries have been slight or entirely unobserved. The wife has contracted a syphilis of a modified character; in other words, the spirochete has undergone variation in vivo.

Herein may be the explanation of the reduced incidence of tabes and general paresis in syphilitic women. The conjugal cases, however, may indicate that syphilitic infection is possible in very late stages of syphilis, and then it produces a similar form of disease. As a matter of fact, even the unmarked wives and children of paretics and tabetics will usually be found to be Wassermann positive.

Ehrlich agreed with the view that spirochetes produce self-destructive antibodies in the human organism. A few of the original strain, of superior vital qualities, perhaps, are able to persist in spite of the antagonism of the antibodies, and they propagate a second strain, which in its turn arouses the forces of resistance, and so on ad infinitum. Finally, a strain is evolved which is apparently of a lowered fecundity, but of increased resistiveness, and the condition then tends to come to a standstill. In the final stage probably the organism acquires an immunity to the usual remedies. Here is possibly an explanation of the fact that in locomotor ataxia and general paresis mercury and the iodids are of much less value than in the conditions which precede, such as cerebrospinal syphilis, the arteriomeningeal lesions, and the ordinary manifestations of the tertiary stage. Indeed, syphilitic lesions marked by gummy processes rarely are followed by the so-called parasyphilitic disorders. In this clinical observation we see the manifestation of another variation of the spirochete.

VARIATIONS IN VITRO

Variation of the organism has been confirmed by experiments in the laboratory. Noguchi found that the spirochetes obtained from the brains of general paretics required for their development and propagation about sixty to eighty days; Graves of St. Louis, using the blood of general paretics, found that he could produce syphilitic lesions in rabbits by inoculation, but that it required about sixty days; and both these investigators found that with spirochetes obtained from early stages of syphilis three or four weeks were sufficient. The late-stage organism had clearly undergone a differentiation.

Today in Washington, in the laboratory of the Army Medical School,³ the investigators can produce several varieties of spirochete. They can breed a variety which will produce a hard chancre, or a variety which will produce a chancre lacking the old hunterian characteristics of a saucerlike, indurated base. They can produce a spirochete which will give a rich mucocutaneous efflorescence, or a spirochete which will be poor in cutaneous manifestations, with a tendency to confine its influence on the nervous system. Perhaps we may reach a time when, if we can determine the source of the infection of a syphilitic patient, the stage

of the disease and its characteristics in the carrier, we may be able to draw some conclusion as to the course that lies before the patient, and the nature of the clinical history which he may be expected to run.

What of the various methods of intracranial, intraspinal, intravenous, and combined applications of the arsenicals and mercurials? I must admit that all of these measures thus far have not enabled us to cure or positively arrest locomotor ataxia or general paresis. In those cases in which the lesions have not reached the stage of latest syphilis, those in which the disease falls especially on the vessels and the meninges, the prospects of cure are of the very best. It is essential in the conduct of such treatment that we be guided, not by the Wassermann in the blood, but by the condition of the cerebrospinal fluid. No man, in my estimation, is giving his patient the best treatment, or even the proper treatment, who withholds the administration of these remedies before he has obtained, for a period of years, negative results by the Wassermann, the other accepted tests, and the cytologic count in the spinal fluid. The granting of marriage certificates to those who have had syphilis should not turn on the examination of the blood by the Wassermann method, but on careful examination of the spinal fluid.

The problem of treatment appears not to be one of the surgical or mechanical administration of the old or new remedies, but the discovery of some agent particularly biocidal to the organism in its latest variations.

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RECURRENT GENERALIZED HERPES OF INFECTIOUS ORIGIN

REPORT OF A CASE *

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This report of a case of generalized herpes simplex that was recurrent over a period of two years will undoubtedly show its infectious origin. This type of herpes is rare, and the observations made offer suggestions as to the etiology of the more common herpes simplex.

Cases of herpes may be roughly divided into three groups. Though in all three groups the skin lesions show a necrosis and exudation of varying intensity, these and other pathologic findings are most pronounced in the herpes zoster group. Von Barenprung¹ and others described changes in the posterior root ganglion in herpes zoster; but it remained for Head and Campbell² to describe these changes in detail. They found, in the ganglion of the posterior root of a part corresponding to terminal skin lesions, changes of acute degeneration, that is, exudation of round cells and hemorrhages, and destruction of cells and fibers. They found acute degeneration and sclerosis in the posterior nerve roots, in the peripheral nerves and the posterior columns of the cord.

The recent work of Rosenow and Oftedal³ has

* Read before the Society of Alumni, Lebanon Hospital, February, 1916.

1. Von Barenprung: *Annalen d. Charite-Kranken.*, ix, 1861.

2. Head and Campbell: *Brain*, 1900, xxiii.

3. Rosenow, E. C., and Oftedal, S.: *The Etiology and Experimental Production of Herpes Zoster*, *THE JOURNAL A. M. A.*, June 12, 1915, p. 1968.

3. Personal communication to the author.

added much to our knowledge of herpes. Streptococci were isolated from removed tonsils, and from pyorrheal pockets and spinal fluid of herpes zoster patients; these were injected into animals with resulting lesions of herpes and changes in the vagus and sympathetic ganglia. Gram-staining diplococci and diplococci in chains were found in and about the ganglia. Other streptococci, or those isolated from tonsils or elsewhere after the patient is cured, do not manifest this similar elective localization when injected into animals. The cultures from peripheral lesions were negative. This work appears to be confirmatory evidence of the infectious origin of herpes zoster.

In a second group of herpes, those due to a known toxic or infectious agent, like changes have been described in the posterior root ganglion. Acute inflammatory changes in the gasserian ganglion have been described when herpes occurred during cerebrospinal meningitis,⁴ pneumonia,⁵ arsenic, carbonic oxid poisoning, etc. Sunde⁶ found a gram-positive diplococcus in the gasserian ganglion of a man with herpes who died of pneumonia.

In these two classes of herpes, herpes zoster and the toxic or infectious cases, the lesions of the nervous system and the microbic origin are established.

On the other hand, in still another group, that of herpes simplex, there is no direct evidence of changes in the ganglia. Heretofore no micro-organism has been found in the terminal lesions; and there has also been absence of other evidence of the infectious nature of herpes simplex.

In my case of generalized herpes simplex, the causative organism—a streptococcus—was isolated. It is termed "simplex" because it accompanied no infectious disease; it was due to no known toxic poison, nor was it a herpes zoster.

The case is of special interest because of (1) its recurrence over a period of two years; (2) the isolation of the causative organism, streptococcus; (3) its cure by vaccine therapy.

Much information and data were kindly furnished by Dr. M. Salzer of Cincinnati, who treated this patient several months before she was seen by me, and to whom my thanks are due. Dr. Berghausen of Cincinnati made the original cultures and vaccine.

REPORT OF CASE

Mrs. X., aged 30, past history negative, for over two years had been having almost continuous crops of herpetic eruptions. The parts chiefly affected were lips, nose, both ears, chest, both wrists, occasionally the leg and forearm. The lesions consisted of vesicles, very fine to pinhead in size, on a base that was red and swollen. Contents of vesicles were clear and would dry up with practically no scaling.

A typical attack would be preceded by much itching and burning, and swelling of the lips. There would be chilly sensations down the spine, profound depression of spirits and total loss of appetite. Then numbers of fine vesicles would appear on a reddened base on the much swollen lips. These would be followed by lesions on the nose, ears and elsewhere. Itching and burning continued throughout.

Physical Examination.—The patient looked thin and anemic; she had lost about 12 pounds in weight. There was a marked lateral curvature of the spine. All organs were normal. Temperature and pulse rate were normal. Blood examination showed a secondary anemia, otherwise negative. The Wassermann was negative. Roentgen-ray examination

of the chest, abdomen, head—sinuses and teeth—was negative. There was very little tonsillar tissue.

Special efforts were made to locate the source of infection in the tonsils, teeth or sinuses without success.

Blood culture was negative. Cultures, however, made on blood agar of material aspirated from vesicles, and probably some from tissue about the vesicles, showed a streptococcus in long chains. From subcultures a vaccine was made.

The patient was injected with this autogenous vaccine in doses ranging from 100 million to 1 billion bacteria. Injections were given every three or four days. Reactions followed injections, outbreak of herpetic lesions, and rise of temperature with larger doses. After five weeks of this treatment by Dr. Salzer, the patient came under my care.

The disease had now lasted over two years, and protracted stays in bed were the only means which seemed to check attacks. All the usual methods of treatment, external, internal, hypodermic, change of climate, etc., were tried.

It seemed to me that, as there was some amelioration in the symptoms, gain in strength and lengthening of intervals between attacks, it would be best to continue the only measure that brought relief outside of rest, the vaccine method of treatment. It was essential to use the patient's own organism, as vaccination with other strains of streptococci would not, according to Rosenow's findings, have produced the antibodies of her particular strain. In an endeavor to do away with the negative phase, and in order to give larger doses, I sensitized the autogenous vaccine.

Sensitization was performed by adding to every cubic centimeter of autogenous vaccine 2 c.c. of a polyvalent anti-streptococcus serum. This was placed in a thermostat at 37 C. (98.6 F.) for twenty-four hours, and shaken frequently. The preparation was centrifuged. The bacteria were then washed free of serum with sterile saline. After testing sterility, the bacteria, plus antibody, were ready for injection.

Six injections of this sensitized autogenous vaccine were given in one month. The dose was increased from 200 million to 2 billion bacteria. There were no local reactions until the two largest (1½ and 2 billions) were reached, when there was a slight outbreak of the eruption. There were minor constitutional reactions at times, such as depression of spirits, chilliness and loss of appetite following injections; but a gain in well-being, strength and in weight was almost immediate. One more injection quickly controlled a slight outbreak that occurred about a month after treatment had been discontinued.

Five months have elapsed since, and there has been no recurrence; meanwhile the patient has gained 11 pounds in weight, and she is strong and happy.

CONCLUSIONS

The isolation of the micro-organism from the skin lesion, the institution of a negative phase by its injection, with skin manifestations, and the cure, unattainable by any other means than the increase of immunity for the streptococcus by the injection of streptococcus vaccines; are all direct evidence of the infectious nature of this herpes. It is therefore a step toward proving the infectious origin of herpes simplex, and another step in the direction of showing the common origin of all herpes.

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The Care of Epileptics.—Thirteen states have colonies for epileptics. The total number of epileptics in the United States is 200,000. Of these only 3½ per cent. are properly cared for. Of 1,320 deaths in the Craig colony 513 were due to causes related to epilepsy. The average age at death was 30 years. In 600 necropsies about 60 per cent. showed gross brain lesions, but only a very few showed anything that might have been treated surgically. The most striking and frequent change was enlarged lateral ventricles and cystic or granular choroids.—Twenty-Second Annual Report of the Craig Colony for Epileptics, New York.

4. Councilman, Mallory and Wright: Massachusetts State Board Reports, 1898.

5. Howard, W. T., Jr.: Am. Jour. Med. Sc., cxxv, 256.

6. Sunde: Deutsch. med. Wchnschr., 1913, xxxix.