LUPUS ERYTHEMATOSUS AND FOCAL INFECTION *

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REPORT OF A CASE

Mrs. B., 35 years old, was referred to me in May, 1918, for the treatment of an erythematous lupus of one year's duration. The eruption, while presenting a wholly characteristic appearance, was distributed over an unusually large area; coin-sized and smaller patches were scattered over the cheeks, the upper and lower lids, behind the ears, in the scalp, on the upper chest, the arms and forearms and in the interscapular region. Some of the larger patches, especially those on the malar eminences, the upper lids and the back, were decidedly thicker and more scaly than usual. Before coming under my care a diagnosis of syphilis had been made and antisyphilitic remedies had been employed for some months, of course without influencing the disease. Under the local use of a 2 to 3 per cent. alcoholic solution of salicylic acid and the internal administration of quinin in considerable doses, there was a steady but slow improvement in all the patches; on the back and arms the improvement was especially noticeable, the disease disappearing in these regions in the course of a few months. Other local remedies were tried from time to time, but the salicylic acid seemed by far the most effective. After nearly a year of this treatment, improvement ceased and as there had been no new patches, trichloracetic acid was applied to the thicker lesions at intervals of some weeks, the intervals between the applications being longer than was desirable because of the distance at which the patient lived from Philadelphia. These applications were of undoubted value, but as the patient found them extremely painful they were discontinued and phenol every few days substituted, the patient making the applications herself. Two months later a decided improvement was noted, and the treatment was continued. In the latter part of January of this year a most extraordinary change was observed in the disease—all of the patches were apparently undergoing rapid involution and some of the smaller and less pronounced ones had almost entirely disappeared. It was then learned that this remarkable improvement had followed immediately on the extraction of a "capped" tooth which a roentgen-ray examination had shown to have an abscess at the root, although it had not given the patient any trouble for years. On extraction the roots of the tooth were found to be badly necrosed. Unfortunately, under the circumstances, a bacteriologic examination of the abscess was impossible; this is greatly to be regretted since it leaves us in entire ignorance of the character of the organism concerned in the infection. I had hoped to see this patient again before the completion of this paper, but circumstances have made that impossible. In a recent, letter, however, she states that there has been further improvement.

This case is reported simply for what it is worth—not as proving or disproving anything as to the etiologic relationship of focal infec-

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tion to erythematous lupus, but to put on record a case which is, to say the least, suggestive to a considerable degree of the possibility of such a relationship.

OTHER CASES

A few years ago, Barber [1] reported an extensive case of acute erythematous lupus following the ordinary chronic type after some years, accompanied by high temperature and other grave symptoms threatening, for a time, the patient's life, in which a bacteriologic examination of the feces revealed the presence of large numbers of *Streptococcus longus,* the organism growing in almost pure culture on inoculated mediums. After an illness lasting for a month or more, the patient recovered, the eruption vanishing rapidly. With the improvement in the eruption the streptococcus disappeared from the feces. In Barber's opinion, the disease was due in this instance to the absorption of a toxin produced by the streptococci found in such abundance in the intestinal canal. No mention was made of any local focus of infection and apparently no search was made for it beyond the examination of the feces. Recently [2] the same author has reported two cases of erythematous lupus of the ordinary type associated with an infection of the tonsils by the same organism found in the former acute case; and from a series of similar cases which he has been able to collect recently he is convinced that the disease is due "in some instances at any rate" to the toxins produced by *Streptococcus longus.* In one of the reported cases treated by an autogenous vaccine prepared from the tonsils, an injection of a dose containing 5,000,000 of the organism was followed by a decided reaction in the patches of lupus lasting twenty-four hours; and after a larger dose, one containing 10,000,000, an intense reaction followed, together with considerable constitutional disturbance. The streptococcus in this case was found not only in the tonsils, but also in adenoid tissue at the back of the throat, the patient having suffered from adenoids some years before. It should be added that uniformly positive results followed a series of tuberculin tests made according to the method of von Pirquet.

Although negative evidence is of comparatively little value as compared with positive findings, I cannot refrain from referring briefly to a second case of this affection which has been under my close observation for a period of four years. The patient is a robust man apparently in excellent health, apart from his cutaneous disease, about 50 years old, and his disease has lasted seven or eight years. It occupies and is limited to both cheeks. The eruption is quite florid

1. Barber: Brit. J. Dermat. **27**:365, 1915.
2. Barber: Brit. J. Dermat. **31**:186 (Oct.-Dec.) 1919.

in appearance with a moderate amount of infiltration, especially about the borders. A recent roentgen-ray examination by one of the most skilful roentgenologists in the country and a thorough inspection by a competent dentist have failed completely to disclose any disease of the teeth. A thorough examination of the throat and especially of the tonsils has disclosed nothing abnormal; the tonsils are quite small and are completely hidden between the pillars of the fauces. The patient is positive in his statements that he has never had any trouble with his throat. In conclusion, it may be stated with confidence that there is no disease of either teeth or tonsils, and that there have never been any symptoms suggesting the presence of focal infection elsewhere.

Truly, "experience is fallacious and judgment difficult."

DISCUSSION

DR. PUSEY recently had a case analogous to Dr. Hartzell's which suggested the possibility, as Dr. Hartzell's had, of the causal relationships of focal infection to some cases of erythematous lupus. This case was that of a young woman with severe erythematous lupus of long standing on the face, the patches showing a good deal of infiltration and thickening; they were elevated and of a dark chronic red color. This woman's teeth had been found to be in bad condition, most of them showing alveolar abscesses, for which removal had been advised. On the removal of the teeth there was a temporary exacerbation, but in the course of a month there was distinct improvement. Two months later the improvement continued. He was glad that Dr. Hartzell had called attention to this possible factor in erythematous lupus, but, like Dr. Hartzell, he thought that focal infections were only one of the many sources of intoxication that might produce erythematous lupus.

DR. SCHAMBERG wished informally to place on record another case of acute fulminating erythematous lupus. The patient was a woman, about 40 years of age, with an ordinary lupus erythematosus on the face, who developed an erysipelatoid appearance of the facial lesions, new patches on the body, and in whom a pneumonic consolidation with high fever caused death in a few days. Unfortunately, he was unable to obtain a necropsy examination.

In regard to the work of Barbour, which had been quoted, we should certainly be extremely reserved about accepting any direct relationship between the streptococcus and lupus per se. He did not think anyone had succeeded in establishing fixed types of streptococci which had specific pathogenic effects. Some years ago he made cultures of the throats of 100 patients with scarlet fever and these were bacteriologically studied by Dr. Gildersleeve, who found 92 per cent. of streptococcus in these throats. Cultures were then made from 100 apparently healthy university students in whom 82 per cent. showed the streptococcus, and these killed guinea-pigs with as much rapidity as those from the throats of the scarlet fever patients. Furthermore, the streptococcus was present in the throats of most persons.

In regard to the improvement which occurred in one of the reported cases of lupus erythematosus from vaccines, it was possible that this was the effect of a nonspecific protein. It was well known to dentists that exacerbation of symptoms for which the patient sought relief often temporarily followed the

extraction of incriminated teeth. This is believed to be due to absorption of organisms from the vascularized infected focus. It is conceivable that an absorption of nonspecific organisms might also bring about improvement.

DR. WALLHAUSER reported a case which terminated fatally. The patient was a woman who had developed an eruption over the bridge of the nose which extended out over the cheeks; this had persisted for about one year—the color was a deep purplish red with superficial scaling. The resemblance to lupus erythematosus was striking, but some of the characteristic features of this condition were lacking—elevated border, atrophy, etc. Febrile symptoms were present, the temperature ranging from 99 to 104 degrees. A focal infection was carefully considered and every effort made to locate the source, with a negative result. The patient gradually passed into a state of coma and died; the postmortem examination revealed an abscess of the liver.

DR. FORDYCE agreed with Dr. Pusey that lupus erythematosus might have a multiform etiology. He was convinced that a certain percentage of cases were related to tuberculous foci somewhere in the body. He had reported, at a former meeting of this association, a case of lupus erythematosus of the face in which a tuberculous focus was found in the kidney at necropsy. He had seen numerous cases of lupus erythematosus with coincident tuberculous lymph nodes in the neck. In one of these cases, after an operation on the lymph nodes, numerous patches of lupus erythematosus appeared on the face. Years ago Dr. Fordye reported symmetrical patches of lupus erythematosus on the hands and forearms of a pregnant woman who developed convulsions before her confinement. The lupus erythematosus disappeared after her confinement.

DR. MCEWEN said that as the subject of focal infection was almost certain to occupy increasingly the attention of dermatologists, he wished to mention two points. First: Is one warranted in saying that the tonsils are not foci by simply saying that they do not appear to be, because they are buried and small? He knew of a case in which there were pronounced joint symptoms; when the small, fibrous, and deeply buried tonsils were taken out they were found to contain visible pus. Second: In looking for foci the gall tract should not be forgotten. The gallbladder and ducts are often the seat of a chronic infection which may become focal in effect, but the profession is so prone to think of the teeth and tonsils as the only foci that this fact is apt to be overlooked.

DR. CORLETT stated that he had always been of the opinion that lupus erythematosus was not associated clinically with tuberculosis or lupus vulgaris. He never yet had seen a case of lupus erythematosus associated indubitably, other than by family history, with lupus vulgaris or tuberculosis. About a year ago, however, when Dr. Stokes presented his valuable study relative to foci of tuberculosis giving rise to or associated with lupus erythematosus, he realized that many cases might harbor foci of tuberculosis that were not demonstrable by ordinary examination or apparent from visual inspection. That lupus erythematosus was caused by other agencies and that reflex nerve irritation might be a potent factor in its causation Dr. Corlett had also believed. The latter belief was borne out by certain observations; one he especially recalled, made a number of years ago, in a woman who was a stenographer, whose eyes had been corrected by some traveling optician and who had a very extensive lupus erythematosus, not of the ordinary butterfly form, but surrounding the palpebral region. A careful examination of the eyes by a skilled oculist and proper glasses brought relief in the course of some months, so that the ordinary applications that had been useless before were effective in producing a cure.

Again, as a possible cause of lupus erythematosus, foci of infection may be encountered in the teeth, as evidenced by two cases of herpes in a woman whose teeth were in a very bad condition and whose mouth was a source of irritation, reported last year before this Association. After the teeth were put in proper condition or extracted, no attack of the skin manifestation took place and finally, after some months, the cutaneous symptoms all disappeared.

Since that time Dr. Corlett had had a case of inflammation of the cheek which resembled a circular patch of eczema and which was very obstinate to treatment. Various applications had no effect. This woman received numerous roentgen-ray examinations, and well defined abscesses were found. These were removed and the mouth properly treated. In the course of a few weeks the lesion on the cheek began to heal and in due course finally disappeared.

Dr. Corlett wished, however, to give a word of warning against extracting teeth indiscriminately. The average practitioner, reading a report of this sort, was apt to think that everything dermatologic was due to infected teeth, and during the last few years there had been more sound teeth extracted than one would think possible. He felt that the profession should be on guard against attributing indiscriminately various infections to the teeth, although they must also recognize that such an infection was often effective in producing various disorders.

DR. HIGHMAN thought the question raised by Dr. Hartzell's presentation was of tremendous importance in relation to such a clear cut condition as lupus erythematosus. It should be borne in mind that one was dealing with a distinct clinical entity. When the question of etiology came into consideration, one was at once confronted with the fact that here again was an example, in a very restricted manner, in which tissue was able to respond uniformly to various pathogenic causes. He had seen one case which in one way was a parellel with Dr. Hartzell's and in the other was like the cases brought out by Jadassohn. The case was that of a woman of about 20 years of age who for six or eight months had had malaise and weakness. She developed a patch of lupus erythematosus and complained of a peculiar, bandlike headache. Dr. Highman sent her to an otolaryngologist, who found an empyema of the antrum of Highmore. Under treatment of the latter, the lupus erythematosus began to disappear. Whether this was an example of focal infection in lupus erythematosus, he did not know. He was not a focal infection "fan," for every nook and cranny of the body might contain a bit of pus and he did not believe that every disease such a patient had must arise from that focus. Nevertheless, it did seem that when a condition of this sort was present, and when after the removal of the focus it disappeared, that there must be some relation.

Dr. Highman had seen some cases connected with tuberculosis. The whole literature was full of such cases (Jadassohn). Kyrle reported lupus erythematosus on one cheek and lupus vulgaris on the other. Everyone had seen lupus erythematosus associated with papulonecrotic tuberculids, and even some lesions in the Darier-Roussy type of sarcoid had distinctly the clinical appearance of lupus erythematosus. There was no getting around these facts. Thus there seemed to be some connection between lupus erythematosus and tuberculosis.

DR. STOKES had seen within a comparatively short time two cases with extensive erythematous lupus of the face which had completely recovered for the time being following erysipelas. The patient had apparently experienced

a kind of fortuitous vaccine therapy. One should be particularly careful not to allow such observations to lead him into unwarranted conclusions as to streptococcal etiology.

With reference to an association with tuberculosis, he had seen many striking instances of it. His study of the association of streptococcal foci with tuberculids had led him to offer the hypothetical suggestion that cutaneous sensitization from a pyogenic focus might serve as a secondary etiologic factor in the production of erythematous lupus with tuberculosis as a primary etiology or the reverse. In this way erythematous lupus might be regarded as a toxic or allergic manifestation of associated tuberculous and streptococcal focal infections.

DR. HARTZELL (closing) emphasized the fact that while it was not common, erythematous lupus occasionally disappeared spontaneously, a fact which made it difficult to decide as to the action of any particular remedy. He had seen two cases of that sort. If he had given the impression that he was arguing for an etiologic relationship between erythematous lupus and focal infection, he had given the wrong impression. It was not his purpose to argue either for or against such a relationship; he simply wished to report a case which impressed him very much on account of the improvement following the removal of the teeth.

As to the multiform etiology of erythematous lupus, that might be true, but he disliked very much that sort of conclusion about disease—it seemed to him a sort of compromise. It was true that a number of diseases have a multiple origin, but before deciding anything in that respect, one should be quite sure of it.