

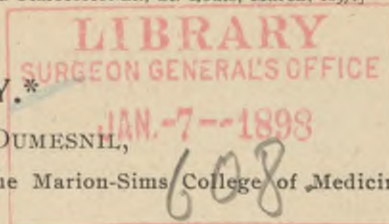
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LEPROSY.*

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THERE is perhaps no disease which has been more spoken of with less knowledge on the part of the general public, and of a great proportion of the medical profession, than leprosy. Nor is there one which has been so much subjected to misinterpretation or which has produced so much fear and terror in the popular mind. The latter is no doubt due to the Biblical influence induced by unconscious misinterpretation on the part of translators and commentators. For, it is a well-known fact that in many oriental countries but little attention is paid or importance attached to lepers, they intermarrying with the healthy, coming in daily personal contact with the unaffected, and being treated without any difference from others not leprous. It may possibly be that the writer of the book of Leviticus had but a restricted knowledge of the disease itself, as we find psoriasis called leprosy—and in comparatively modern times, lepra alphas. Aaron himself had leprosy (psoriasis) and was admitted within the Holy of Holies, an act which would not have been permitted had he been suffering from true lepra. On the other hand, the Jew who had leprosy was declared "unclean" and pronounced a pariah. From this arose the popular idea that the disease was contagious; and, it may be stated as a matter of fact, that the Semitic race in the Orient presents more leprous subjects than any other, so far as they have been observed in Palestine, Syria, Turkey, the Mediterranean Islands and in that neighborhood.

To-day the disease may be said to practically exist all over the world, the smallest numbers being found in Europe and in the United States. India is estimated to harbor over 300,000 lepers. China is also known to contain large numbers. The countries mentioned above continue to furnish their quota. The Sandwich Islands are notorious for the number of lepers found there. Mexico and the South American countries also present many cases of the disease, and the list might be continued almost indefinitely.

The burning question connected with leprosy is whether it is a contagious malady or not. As we have already stated, the Ancient Hebrews regarded it as such, and this opinion was intensified in Europe during the Middle Ages, but more especially after the first return of the Crusaders from the Holy Land. Such a large number returned afflicted with "leprosy" and transmitted their disease that it was not long before severe means were adopted to prevent its spread. The dissemination of the trouble finally became so great that the unfortunate victims were kept incarcerated in special buildings; and it is estimated that at one time there existed no less than *thirty thousand* leper houses in Europe. A critical examination of the accounts and descriptions of the disease, as it then occurred, will demonstrate to an impartial reader that the trouble was in reality syphilis. This readily explains its rapid dissemination and its ready contagion. Treatment being ignorantly applied, the patients neglected and abhorred, also

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easily explains the ravages which it made and the rapid deaths which followed in its wake. Those not syphilitic suffered, in a certain proportion, from the bubonic plague, and a very few were probably leprosy.

On the other hand, we have the curious history of the spread of the disease in the Sandwich Islands. It is not so many years ago that leprosy

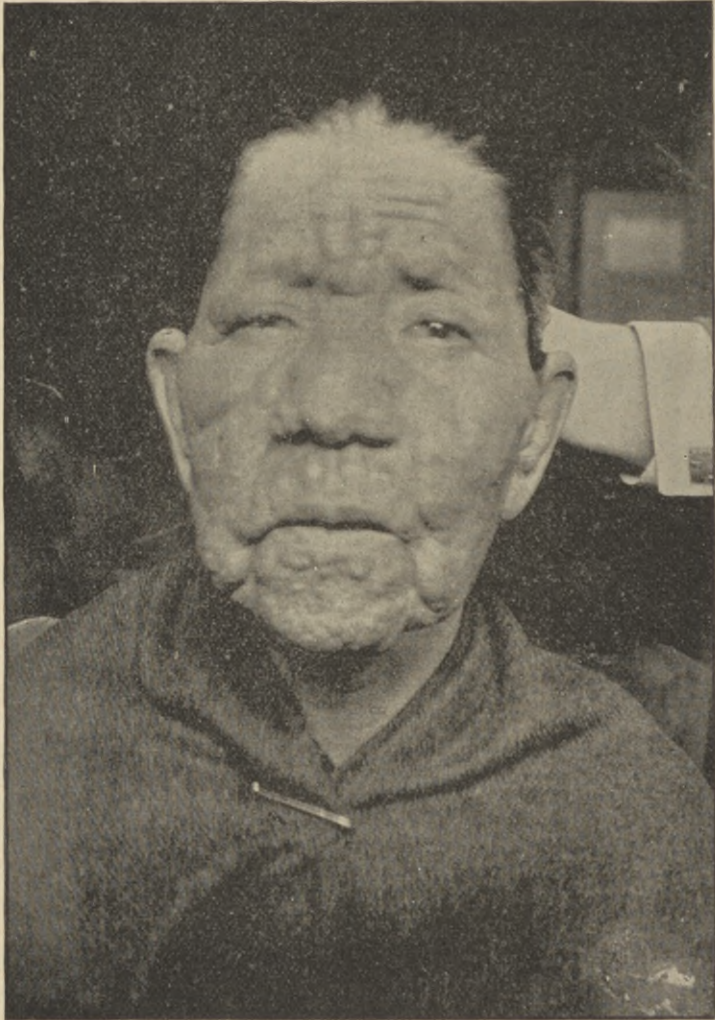


FIG. 1. Tubercular Leprosy, (Mexican Woman.)

was unknown in the islands. A Chinaman affected with leprosy, so the account goes, was the original focus, and from him it spread to the natives, and from one to the other with such frightful rapidity that it might be said with propriety that these islands are naught but one vast leper colony. Father Damien, the Belgian priest who lived among them for years, finally

contracted leprosy and succumbed to the disease. In the case of the Sandwich Islands there is no doubt of the certainty that the disease is leprosy, and it would seem, at first glance, to be an irrefutable argument in favor of the contagiousness of the disease. Careful study and inoculations by competent investigators have failed to show that leprosy is contagious, but it is inoculable with the greatest difficulty and only under special circumstances. Pure cultures of the lepra bacillus have failed to bring on the trouble, and perhaps the only method which has been found to be successful in transmitting the disease is by vaccination from the visicle of a leper. This is certain to transmit the disease in nearly every case. The entire question still remains *sub judice*; and in many experimental cases nothing definite can be stated, as the disease is one having a long period of incubation, being itself a very chronic process, patients with the disease living as long as sixty or seventy years after its first manifestation declares itself.



FIG. 2. Tubercular Leprosy. (Chinaman.)

No attempt will be made to give a complete description of the disease, as a mere outline would fill a volume. A description of one or two typical cases may, perhaps, give a faint idea of the more prominent characteristics of the trouble. One of the commoner forms is the tubercular. Good pictures of this form are given in Figures 1 and 2. Figure 1 is a picture of a Mexican woman, spinster, about 53 years of age, who applied to me for treatment. She was employed as a nurse in a family of Mexicans, taking care of an infant and a small girl, neither of whom contracted the disease, and whose parents laughed at the suggestion of such a possibility. The patient stated that she had had the disease for years, and had never suffered any particular discomfort from it, with one possible exception. This was a complete anæsthesia of the integument of the limbs and of the face and head. She could not feel the prick of a needle, nor was she aware of the fact when a piece of her skin was excised. This symptom, which

is quite the most prominent one in the anæsthetic form of leprosy, is one observed in more than eighty per cent of the cases of the disease which are examined in reference to this special symptom. It is a particularly important point to establish, from the fact that it is far from rare to observe mutilating ulcerations of the fingers and toes follow it. Although these heal spontaneously, they leave mutilations which are, in many instances, hideous, and only less so than the deformity of the nose occasioned by the necrosis and caries of the bones, and ulceration of the soft lining structures.

As in all cases of leprosy of the tubercular and anæsthetic forms, there existed in this case the peculiar velvety feel of the skin. It also had the doughy consistence so characteristic of the condition; the tubercles were also softish to the touch, and there was present a great looseness of the integument. This was most marked on the arms, the skin hanging from the upper portions of the arms like the dewlap from a bull's neck. Since observing it in this case, I have noted its presence in every leper I have had occasion to observe; and, whilst it is not particularly mentioned by leprologists, it would certainly be instructive to learn whether it is a constant symptom or not. To resume the description of the case: On the dorsal aspects of the hands and feet, as also upon the fore-arms and legs, large, soft tubercles, darker in color than the surrounding skin, presented themselves. The face (as may be seen from Figure 1) was a typical one, and gave the characteristic leonine expression of tubercular leprosy. The tubercles were disseminated over the entire countenance, the nose having the characteristic broadening, the superciliary eminences accentuated, the lips thickened, and the cheeks hanging down in flabby folds. Along the edges of the nares small split-pea sized tubercles were present, and these were excised without producing any pain. As is the case in all operations on lepers, be they trivial or serious ones, healing occurred very rapidly and without extensive scars. The ears were large, soft and velvety, being thickened to quite a considerable degree. So far as the general condition of the patient was concerned, all the functions seemed to be properly performed, menstruation being still present and regular. The patient's appetite was fair, and sleep good. No particular pains were complained of, and the woman seemed to be always in a cheerful and contented mood. She was not irritable, and was unusually patient with her charges.

This case is not so well marked as the one shown in Figure 2. Here we are presented with one occurring in a Chinaman. In this case the tubercles are much more marked, and the folds are thick and furrows deep. The neck is traversed by folds, and the expression of the face has a fierceness lent to it not due to any disposition of the kind. The Chinese always present a more hideous appearance than any other race. This is no doubt due to the peculiar conformation of the features in the Mongolian.

The anæsthetic form of leprosy is not frequently met in its pure form. In fact, nearly all forms are mixed. In the anæsthetic, the macular form is seen; the anæsthetic is mixed with the tubercular, etc. One peculiar phase of the anæsthetic form which has elicited a great deal of comment and discussion, is a certain atrophy of the interossei muscles of the backs of the hands. A very marked case of this is shown in Figure 3, delineating a case in a Chinaman. He was cheerful, despite his segregation, and

felt in good physical condition. A feature connected with the particular muscular atrophy shown, was a weakness in the grasp of each hand. This peculiar atrophy has an interest for both neurologists and leprologists, from the fact that it is so suggestive of syringo-myelia; and, when the trouble has progressed, or when anesthesia is marked, we may have typical examples of Morvan's disease, so far as appearance and general symptoms are concerned. The first question which arises is as to whether the atrophy is due to leprosy alone, or is there a true syringo-myelia present, produced by the action of the leprosy process on the spinal cord. In regard to Morvan's disease, some have expressed great doubt that it is a disease *per se*. Zambaco Pasha has even gone so far as to assert that all cases of Morvan's disease are in reality leprosy, and that the latter disease can always be demonstrated by tracing back the history of the individual and his predecessors. These questions cannot be considered here, and it will suffice to say that the presence of the atrophic form is prognostic of grave nerve complications, Morvan's disease being an incurable affection and accompanied by varying degrees of imbecility. The whole question is one which has awakened the liveliest interest, and is still being investigated by some of the most competent authorities living.

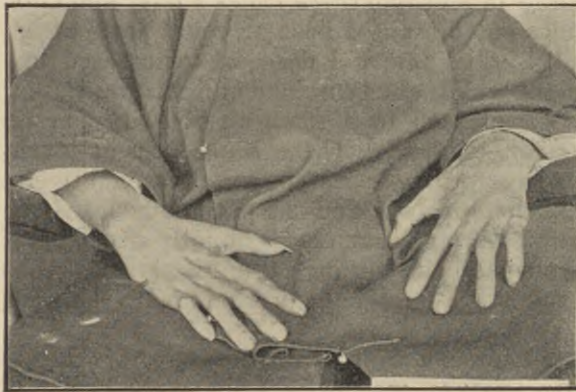


FIG. 3. Anesthetic Leprosy. (Chinaman.)

No special attempt will be made in this place to discuss the matter, that of the therapeusis of recognized cases being perhaps of more importance. Up to within late years nearly every author regarded leprosy as an incurable disease. Various attempts were made in the way of medication, but no satisfactory or adequate results were obtained. Unna, on the other hand, looks upon the disease as a perfectly curable one, and he claims to have obtained successful results. In view of the results which have been obtained by nearly all those who have attempted to treat the disease, very little encouragement can be held out for an ultimate cure, although improvement can be safely promised and obtained in a comparatively short time. The treatment of Unna, which he has well spoken of, was based upon the researches and findings of a pathologic and of a therapeutic

nature. To begin with, the researches first made by Hensen, and afterwards pursued by other investigators, have proven, with as great a certainty as in the case of tuberculosis, that leprosy is a bacillary disease due to a specific bacillus having peculiarities in its methods of staining, bleaching and cultivating. The bacillus resembles very closely that of tuberculosis in its morphological characteristics, but differs materially from that organism in the fact that cultures can be made only with the greatest difficulty and upon special media. Furthermore, it is aerobic. It is this last quality—this greediness for oxygen—which causes it to assume a particular locality in the tissues. The bacilli hug closely the walls of the arterioles and of the lymphatic vessels. It is this fact which has led to the conclusion that the best treatment is such an one as will rob the organism of the oxygen which it seeks. In order to accomplish this, reducing agents are clearly indicated. Their external and internal use combined should certainly accomplish the desired purpose, if anything can. Good results have been reported as following the use of this method, but, unfortunately, no cure has as yet been accomplished.

The fact that, among our strongest reducing agents, ichthyol holds a foremost place led me to the employment of that agent, both internally and externally, in the case shown in Figure 1. The dosage was carefully and gradually increased, and the patient grew steadily better. She began by taking fifteen grains of ichthyol three times a day, and applied a twenty per cent ichthyol ointment, having a base of equal parts of lanoline and cold cream, twice daily. The internal dose was increased up to one drachm three times a day, at which she remained and continued for quite some time. The ointment was increased to a strength of sixty per cent. A strange circumstance in connection with these high doses of ichthyol was the fact that, far from producing nausea, as might be reasonably expected, the drug seemed to increase the appetite, and the patient declared that she felt much better in every respect. It became occasionally necessary, in the course of the treatment, to suspend the internal administration of the drug, this being done whenever the ichthyolic fetor of the breath became markedly pronounced.

Among the phenomena which were noted in this case, and which were of a most gratifying nature, may be mentioned the return of the sensibility of the skin. The cutaneous anæsthesia, which was complete, disappeared entirely, and the slightest touch of any external body was instantly perceived and recognized. In addition to this, it was noted that the tubercles diminished perceptibly in size, and the face no longer presented the characteristics of the leonine countenance to the same marked degree as it did before the inception of the treatment. After this much improvement had been procured in a comparatively few months' time, the patient passed from under my observation, and I learned later that she had returned to Mexico with the family employing her. This was, of course, quite a disappointment, in view of the progress which had been made, but one which I have experienced in every case of leprosy which I have had occasion to treat.

One of the oldest and, it is claimed, one of the best methods of treatment for this disease is the internal administration of chaulmoogra oil in gradually increasing doses. Many cases of marked improvement have been noted as due to its action, but no undoubted cure has yet been demonstrated.

A remarkable case of improvement, observed in Paris, is reported and figured in the Atlas of Skin Diseases of the Hospital St. Louis, which is still going through the press. There is no doubt that the improvement is remarkable, but the time which has been necessary to accomplish this seems to be almost out of proportion to the result achieved. Another agent which has found many supporters, and which is highly lauded is gurjun oil. It is used very much in oriental countries, as chaulmoogra oil is, both being also quite popular in the Western Hemisphere. We do not see any but encouraging reports; and absolute and undisputed cures have not been brought forward up to the present.

The latest method which might prove successful is that which has been recently brought forward. It is simply the application of sero-therapy to the treatment of the disease. I suggested over a year ago the injection of serum of goat's blood, the animal having been inoculated previously, in the manner employed in other methods of serum injections. All animals being immune to leprosy, a curative as well as preventive serum should certainly be obtainable. Within the past two or three months indefinite reports of successes obtained with goat serum in cases of leprosy have been published. However, so far as an ultimate cure is concerned, but small hope can be held out yet. I have seen two reported cases of cure, but the tubercles had returned and the cases were again suffering from the former symptoms. The structural changes which become established in a case of several or many years' standing are such as to be practically beyond the reach of all treatment. That there is a possibility of preventing the evolution of the disease, when taken at its inception, is most probable. The method of doing this has, so far, not been satisfactorily demonstrated; and leprosy still remains an *odium medicinae*, and bids fair to remain so until some effective means of eradicating it is discovered. Whether this will lie in the direction of sero-therapy or of some means as yet undiscovered, must be left for the future. At present, we must, perforce, remain content with the methods at our disposal.

