CLINICAL LECTURE

ON

THE IMPORTANCE OF THE DIAGNOSIS BETWEEN LEUCODERMA AND WHITE LEPROSY.

By JONATHAN HUTCHINSON, F.R.C.S.,
Senior Surgeon to the London Hospital; Surgeon to the Royal London Ophthalmic
Hospital, and to the Hospital for Skin Diseases.

WHEN, a few years ago, I thought the subject of leucoderma deserving of careful clinical study, the only points of practical importance respecting it with which I was acquainted were, its diagnosis from "bronzed skin" and from tinea versicolor. Quite recently, I have become aware that the differential diagnosis of this disease has yet another and far more important bearing. The disease known as "white leprosy" from time immemorial in the East, is no other than leucoderma. Of this fact I shall hope to convince you by the citation of a considerable amount of modern evidence from Indian sources. Before quoting this evidence I will, however, ask your attention to the patient before us. He is an excellent example of a white leper, and would certainly in many countries have incurred the penalties attaching to that class; exclusion from society, imprisonment for life in a lazaretto, or even burial alive. You will see, then, that the precise diagnosis is to him a matter of some consequence. He presents the most extreme condition of leucoderma, or piebald skin, that I have ever seen, though not, I suspect, nearly so extreme as is not unfrequently witnessed in the natives of hot climates. Leucoderma is common enough amongst English people. In a person of fair skin, however, the distinction between the pigmented patch and the blanched patch is not great, and in many instances it needs careful examination to be convinced of its existence. In still colder climates it is probably scarcely ever noticed. On the swarthy skin of one who has been exposed to a tropical sun, white patches would be so conspicuous that they would arrest the attention of the most superficial observer; hence it is that leucoderma is said to be common in Spain and Portugal, in the northern parts of Africa, and in some parts of South America; hence also that it is so conspicuous in India that it has been long known, even by the natives themselves, under a distinctive name. We must stop here for a moment to note a circumstance of some interest which, I believe, is true concerning this remarkable change in the pigmentation of the skin. The members of deeply coloured races (Negroes, etc.) appear to be less prone to it than those of fairer ones. Although piebald Negroes are now and then seen, there is every reason to believe that they are infrequent, since it is not possible that the change in them could escape observation. The fact of its occurrence, supposing it to be at all common, would certainly have attracted much attention from travellers and others.

Some facts which have come under my notice would favour the belief that leucodermic changes are especially likely to happen in those who have experienced great physiological changes in the pigmentation of the skin: thus, for instance, if a member of one of the fair races has been exposed to the influence of the sun, and has become very much bronzed, under such circumstances, leucoderma would, I think, be especially likely to happen. Our present patient is an example of this. He is a Russian by birth, but has lived in India, where, as he says, he first became burnt brown and then afterwards whitened. He is at present, as you see, of an extremely deep brown hue on his neck and face, and on those parts of his extremities and trunk which the leucodermic patches have not as yet invaded. In all the following points his condition coincides exactly with what is common in leucoderma.

1. The white patches are very white; absolutely devoid of pigment, with, at places, a bluish tinge, and at others, in connection with the state of the circulation, a light pink hue.
2. Everywhere the patches are abruptly defined, there being no shading off whatever between their edges and those of the brown skin in which they are developed.

3. Excepting in the change of colour from brown to dead white, the patches shew no peculiarity whatever. They are not scurfy, and they are neither swollen nor depressed. If hairs grow on them, they, like the integument, become blanched; but they do not fall out, nor exhibit any tendency to other disease.

4. The patches of white occur with tolerably accurate symmetry on the two halves of the body and on the limbs. The symmetry of leucoderma is never exact, but it is always sufficiently so to prove that the disease depends upon some influence affecting the whole body, and not upon either local or accidental causes. I have never seen an example of unilateral leucoderma, or of anything in the least approaching to it.

5. The parts affected are precisely those which are most often attacked; the backs of the hands, the trunk, and large portions of the limbs. The face and neck have, as is often the case, almost escaped. You will notice on his neck that the pigment remains on those parts which would be exposed to the sun when wearing a low collar, as sailors do. The inference suggested that the influence of the sun has been sufficient to retain the pigment is, however, contradicted by the fact that the backs of his hands are quite white. We may note also, as of interest in the same direction, that almost the whole of his penis remains pigmented, almost to blackness. The pubic region and the root of the penis are quite white. The margin, where the white and brown join at the root of the penis, is just as abrupt as that at the root of his neck.

6. Lastly, we may add that the man considers his change of colour of no sort of consequence, and states that it has not in the least influenced his general health.

The point to which we ought next to direct our attention, is to show that leucoderma, as we know it in England, is not really a form of leprosy. You will, I think, readily excuse me from entering into any detailed proof of this point. We have of late years seen case after case of leucoderma, in all stages of development, and we have never met with a single one in which there was any reason to believe that it influenced the patient's health. The subjects of it have come under our observation quite accidentally, being often those who had been admitted into our wards on account of accidents, or for some internal and totally distinct disease. Leucodermic patients never consult us on account of that symptom, and its discovery usually depends upon their being compelled, for some other cause, to strip in the presence of a surgeon. It is quite certain that in England, what we know as leucoderma is a mere pigment peculiarity, not in connection with any special diathesis or dyscrasia. In this conclusion, all who have written on it are unanimous. I should not have thought it necessary to occupy your attention, even to this extent, with the discussion, were it not in order to show that leucoderma is quite different from true leprosy, which is, from the beginning, attended by symptoms of nerve-lesion or of disturbance in general health, and which inevitably tends to a fatal termination within from seven to twenty years of its commencement. My next point is to prove to you that in countries where true leprosy occurs, and especially in the East Indies, the disease known as white leprosy (Baras, Berat, Noona) is no other than the leucoderma with which we are familiar. This is the condition which, in all probability, suggested the expression, "a leper as white as snow." We have already mentioned certain circumstances which make the differential diagnosis of considerable importance to the subject of this peculiar change. The distinction is also one which it is absolutely necessary to make in order to arrive at clear opinions as to the conditions under which true leprosy prevails. Leprosy is an endemic disease, and due, without doubt, to local peculiarities. Leucoderma, as far as we know, occurs everywhere; and is not in the least influenced by climatic peculiarities, excepting in so far as they make it less or more conspicuous. If leucoderma is confused with leprosy, we may have the latter disease reported as prevalent in localities which are in reality free from it. It is only quite of late years that we have had any chance of assigning the true limits to the prevalence of leprosy, and the step which I now propose to take is, I trust, about the last which will be necessary. In the olden time, common psoriasis and lepra, lupus, morbus pedicularis, when unusually persistent and severe; scabies, occasionally, when under similar conditions; and tertiary syphilis, very often were, undoubtedly, confused with true leprosy; and their subjects were allowed to claim a share of the benefits provided for the latter, or, as the case might be, were forced to submit to its penalties. Hence, probably arose the very prevalent idea that leprosy was contagious; and, hence, also, the explanation of the degree of repute which many remedies gained for being able to cure an absolutely incurable malady. The quotations which I am about to bring before you, are selected from the very valuable "Report on Leprosy", published three years ago by Her Majesty's Secretary of State for the Colonies, under the supervision of

a Committee appointed by the College of Physicians. They establish, I think, very clearly the following facts.

1. That, what is called "Baras", or "white leprosy", is really leucoderma.
2. That it runs in India precisely the same course that leucoderma does with us.
3. That the natives still count it a true form of leprosy, and have always done so.
4. That many of the medical men who furnished information to the compilers of the Report refused to allow it a place as true leprosy, whilst others recognised clearly enough the great differences which distinguish it from that disease. Others, however, confuse the two.

The confusion has been helped, and chiefly caused, by the fact that in the anæsthetic form of leprosy there are large patches which are more or less blanched. These may, however, be distinguished from those of leucoderma by very noticeable peculiarities. They are usually devoid of sensation, and the skin involved in them has become dry and harsh, and is surrounded by a dusky red edge, which is tender and hyperæsthetic. These patches are never so white as those of leucoderma, nor are they usually so large, nor would they certainly ever suggest a comparison with snow. The confusion has been yet made more difficult to escape from, by the circumstance that, in hot climates the blanching is of real detriment to the patient. In our own climate, it subjects him to no inconvenience; beneath an Indian sun, however, the decolorised skin is apt to scorch, to smart and tingle, and to become temporarily numb, or even, in extreme cases, to vesicate. These lesions of nutrition will of course seem to confirm the suspicion as to leprosy, which the alteration in colour had suggested.

At various pages of the Report, we find the following statements. "*Lepra Hebræorum*, or the white Jewish leprosy.—This form of disease is extensively prevalent in the island, particularly so in the north-western Province. It is characterised by a peculiar marbled appearance of the skin. It generally makes its first appearance on the hands and lower extremities, and, occasionally, on other parts of the body, in the form of small white dots, which gradually enlarge and extend over the whole surface. It not unfrequently first shows itself on the lower lip, whence it spreads to the face. The hair on the affected parts becomes quite white from the very beginning of the disease. The spots are sometimes of a grey or dusky hue, and often remain stationary for some time; but when they once begin to assume an active development, they rapidly extend so as to cover the whole body with large irregular white spots, which deface the person very much. This disease appears to answer the description given in the Mosaic writings more than any other with which we are acquainted; the 'berat lebena,' or white leprosy of the Jews, and the 'berat cecha,' or the 'dusky berat.' Although this disease produces a striking singularity of appearance in its advanced stage, yet it does not cause any inconvenience to the patient. It is seldom attended with ulcers or other physical suffering or disability." (p. 91.)

"Besides this, and the anæsthetic forms of the disease, there is the white or the Jewish leprosy, the berat of Moses. Of this I have seen instances of both the 'berat lebena' and the 'berat cecha,' or the bright white and the dusky lepra. The berat lebena occurs in the form of one or more pearly spots. The white patches are the same as the healthy skin, except in colour, and that they are either free from hairs, or that the hairs turn white and silky. Sensibility is not affected in pure cases. I have seen the disease coexisting with the lepra anæsthetica, as well as with the true (tubercular) leprosy. The natives consider albinos to be lepers, the disease being supposed to be 'berat lebena;' and, indeed, the white leprosy appears to me to be physiologically indistinguishable from albinism, except in the fact of the latter being congenital, and affecting the whole body; and the former not congenital, and affecting only parts of the body. Both consist of an absence of pigment, and do not of themselves affect the general health." (*Punjab*, p. 169.)

"In the simple discoloration of the skin, the disease will remain passive for years, and most probably not pass beyond this first stage. I have known individuals for five and six years to observe no change in the disease, and not to suffer from any constitutional symptom." (Dr. Jackson, p. 201.)

"White leprosy, as most generally seen, consists of snowy white spots, of various sizes and shapes, over different parts of the body and extremities. The inside of the lips also often turns white, and occasionally the whole surface of the body becomes affected." (Dr. Cockburn, p. 150.)

Bullous Leucoderma.—"White lepers suffer, like albinos, much from sunburning; their skin getting readily scorched and blistered by exposure to the sun's rays. Sensation remains unimpaired in the parts of the skin which are decolorised." (P. 188.)

The following quotation is from an extract from the Medical Report

of the Madras Dispensary, by Thomas Hogg, Esq. "The bright white leprosy of *Leviticus*, chap. xiii, in some cases affects the palm of the hands; in others, it is seen in patches on various parts of the body. The hair becomes changed to white or grey on the diseased parts. Very frequently these patches are seen on the genitals, at the back of the head, on the under part of the female breast, etc. The disease in this form prevails in Madras to a greater extent than I think is generally known or credited; hence the necessity of examining domestic servants." (See p. 226. Leucodermic patches are especially common on the genitals.)

Mr. Hogg does not hint at any difference between the disease which he is describing and true leprosy.

I quote the following from p. 115. "Those observers who write from sufficient experience of the disease distinguish two forms of leprosy; and Dr. H. V. Carter (whose replies are much fuller than any others) speaks of three varieties; viz., *first*, white leprosy, or shvet kusta, probably a variety of the leuke of the Greeks, the baras or beres of the Arabs; it is also called khor by the Sindees: *second*, guleet khusta, sunbahiree of the Hindoos; it corresponds with anæsthetic leprosy, articular leprosy: *third*, tubercular leprosy, elephantiasis, leontiasis, etc., of the Greeks." "The first and second forms are commonly confounded under the name white leprosy; the third all agree in naming black leprosy."

Dr. Bell, reporting from the same locality, gives the following interesting fragment of evidence. "I had always been of opinion that there were two forms of the disease—viz., white and black leprosy; but, from careful investigation, I now find that there is no affinity between them. That which I regarded as white leprosy is a distinct disease, never passing into the *juam* or leprosy proper of the natives. The Mussulman name for it is *buras* (baras)."

At p. 154, we find four forms of leprosy mentioned, and, amongst them the "leucopathic or chalky whitening of the skin, without tubercle or lesion of sensibility (baras)." It is added: "There is a variety of the baras known as *bohaq*, in which the skin, instead of turning white, takes a red or brownish tint." Is it possible that "bohaq" is *tinea versicolor*? In a long paragraph following the expressions which I have quoted, both *bohaq* and *baras* (leucoderma) are inextricably confused with true leprosy.

At p. 151, it is stated that "the white leprosy (*sufaid korhor baras*), to external or outward appearance, is less offensive, and, I believe, does not undermine the health so speedily as the black form. On parts affected, the hair becomes white." Other expressions in this description indicate that the writer was confusing leucoderma and anæsthetic leprosy together. The same remark applies to a description on the next page, where we are informed that white leprosy first appears on the face, hands, legs, and arms, in white smooth patches; and that the affected surface is neither itchy, swollen, nor painful.

From Seharumpore, four forms of leprosy are reported; and here again "white leprosy" is clearly leucoderma. "The white spots of the third variety are of a silvery hue, rather depressed than elevated; appear on any part of the body, vary in size from that of a pea to the palm of the hand, often coalesce, retaining at the same time their crescentic form, and are unattended by any uneasiness."

In the answers from Calcutta, we are informed that "*saithburn*" is white leprosy; the body being covered with white patches, or the skin being almost entirely changed in colour." (P. 121.)

At British Burmah, white leprosy is said to be distinguishable by the white smooth patches of apparently healthy skin, which discolour its naturally dark hue in the races most liable to it. It is added: "The subjects of this disease have a piebald appearance, the white patches appearing white by contrast; or, as happens in some not very numerous cases, the whole skin is denuded of its dark pigment, and presents a similar appearance to that of Europeans." (P. 194.)

Another reporter from the same district writes: "The obvious and distinguishing characteristics of the leprosy called '*noona*' or '*the benign*' are simply white patches, without any sores or ulcers, lasting to the end of life, without any great discomfort or suffering of the general health in the person afflicted."

Both these reporters clearly confuse leucoderma with anæsthetic leprosy.

After mentioning two forms, one in which the fingers and toes are destroyed, and the second characterised by local anæsthesia, we have, "third, that distinguished by pale rose-pink spots, called, in Hindee, *phool ajeetburr*, or, in Persian, *bars*. The first two forms are constantly met with in the same person, and are varieties of one common morbid state. The third form is a distinct disease." (Dr. Jackson, p. 149.)

[To be concluded.]