CONFRENCE LECTURE

DERMATOLOGY AND SOCIOLOGY *

By

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Before I start my lecture, I should like to tall you, how much I appreciate your invitation which I consider a great honor. When I am talking on your congress about the relation of dermatology and sociology I do not pretend to bring a scientific novelty to India, since Sharat DESAI has published two years ago the results of fundamental studies on this topic of which I do not want to enter into details since I think it is sufficiently known to you. Similar inquiries are very seldom in international dermatology.

As it is well known sociology is the science of human society and hence one of the most important sciences of our culture. Its significance for medicine is considerable since it shows us that social factors represent a substantial part in etiology and pathogenesis of diseases. The manifestations of R. VIRCHOW to this problem were: " If medicine should accomplish its big task it is necessary to interfere the political and social life " or: " The doctors are the natural lawyers of the poor people and the social question belongs before all to their jurisdiction ".

These manifestations were said more than 100 years ago. In this century it is especially the historian of medicine Henry E. SIGERIST who mentions to these problems: " Following medico-historical studies up to the present time one passes imperceptibly the territory of sociology. It becomes comprehensive that innumerably not properly scientific factors for instance social, economical, political philosophical, religious factors determine to a great deal success and failure of medicine."

I would like to explain to you the significance of sociology in dermatology on examples of three diseases :

1. Noma.
2. Different forms of skin leishmaniases.
3 Neurodermitis constitutionalis or atopic dermatitis.

NOMA

ECKSTEIN was the first to point out that chronic malaria is the main supporting factor for the development of NOMA which formerly took a fatal course in most instances (S. Picture I). Malaria weakens the defense mechanisms of the skin and oral mucosa where Plaut-Vincent spirilla and fusiform bacilli or other organisms may develop. Compared with our countries, the incidence of noma was relatively high in Turkey; we observed approximately 300 cases at the pediatric hospital in Ankara and several young adult patients in our own hospital. After the

* Conference Lecture delivered at the 4th All India Conference of Dermatologists and Venereologists held in Bombay in February 1962.

introduction of penicillin. ECKSTEIN succeeded in reducing the mortality rate of noma from 90% to 8%.

Following the observations of R. RICHTER noma has nearly disappeared in Turkey. Two reasons are accountable for that. First a medical one: the successful combat against malaria. And secondly a change in the social and economic situation of the farmers who constitute 80% of the population.

From personal observation noma is an infectious disease which attacks especially children whose resistance has been lowered through pauperism. In Turkey mostly children of the poorest Anatolian farmers are taken ill by noma. **(See table A and B)**.

TABLE A

Origin 112 cases of Noma in children we observed in Ankara.

From large towns	...	...	...	0
From small towns	...	...	...	5
From Villages	...	...	..	107

TABLE B

Social level of fathers of 101 children, originating from villages in central parts of Turkey, suffering from Noma.

Farmers, cultivating many acres	...	...	0
Farmers, cultivating a few acres	...	...	11
Farmers, cultivating a small plot of land		...	90

By establishing modern technical civilization, for instance by increasing the number of tractors from 2.000 to 40.000 in a few years, the modernization of the primitively organized agriculture could be reached. Thus the social position of peasantry was extraordinarely improved and the pauperism nearly removed. So, noma is now a disappearing disease. We see here the relationship between dermatology and sociology.

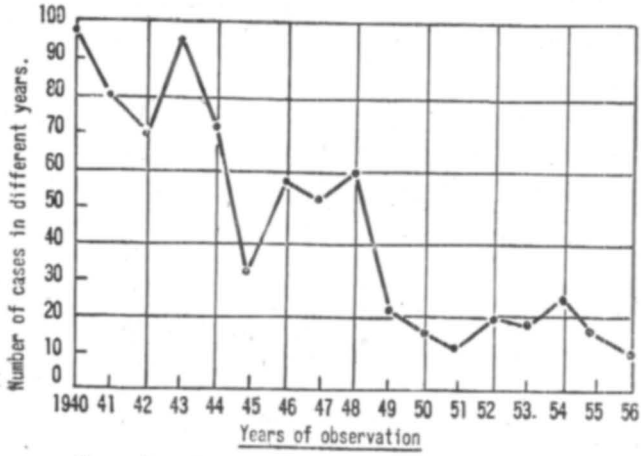
LEISHMANIASIS OF THE SKIN ORIENTAL SORE

Oriental sore, a typical disease of oriental countries, as its name indicates, belongs to the group of Leishmaniasis, The causative organism, leishmania, is transmitted by the bite of Pappataci phlebotomus which are quite common in that area. In many parts of Anatolia, the disease occurs sporadically in other areas it is endemic. We encountered almost 1000 cases with various clinical manifestations and different courses. (Picture 2)

Our etiological and pathogenetical studies revealed that this epidemic could be eradicated only by extermination of the phlebotomi by which leishmanias are carried. Therefore we advised the pulling down of shacks and old houses, in certain circumstances even of whole rows of houses, in order to eradicate the breeding places of these insects. Phlebotomi cannot fly over a long distance and are not able to carry the infection far from its source, i. e. already infected patients, as is well known. WITTINGHAM and ROOK demonstrated in Malta the success of the above described systematic measures against phlebotomi in the eradication of the endemic pappataci fever, which is also carried by phlebotomus.

In the meantime the measures against phlebotomus were much simplified by making use of the newly discovered DDT and other insecticides. R. RICHTER, my successor on the chair of dermatology in Ankara, published later on, that the Turkish government undertock energetic measures against phlebotomi with the modern methods we had recommended. The Department of Health for example sends at least once every month specialists to the old parts of the city which were the source of the endemic oriental sore. These specialists visit house to house, shack to shack and spray every room with DDT.

The result of this action is evidently good and can be demonstrated by the diminished number of patients with leishmaniasis as registered at the dermatological clinics in Ankara from 1940–1956 by R. RICHTER. (Picture 3)



The cecline of cases with Leishmaniasis of the dermatological hospitals in Ankara during 1940–56.

AMERICAN CUTANEOUS LEISHMANIASIS

American cutaneous leishmaniasis is entirely different in its manifestations and clinical course, which may probably also be due to geographic, climatic and especially to sociologic factors. According to BRUMPT the disease occurs throughout Mexico, Northern Argentine and Brazil in hot, humid, marshy and heavily wooded areas, whereas Oriental leishmaniasis is predominantly found in dry, hot and rocky regions, where trees are scarce. American cutaneous leishmanisis can be eliminated by cutting down the timber, thus draining the area; people working in larger glades acquire the disease more frequently than those working in the middle of the woods. Similarly, BELGERI and DUSSDLDORP encountered all of their cases in wooded, humid and hot areas of Northern Argentine. The influence of climatic factors on the incidence of American cutaneous leishmaniasis in the state of Parahyba, Northern Brazil, is most impressively illustrated by the description of ALMEIDA and de OLIVEIRA.

In this area, "buba" (which is the popular term for American cutanecus leishmaniasis), occurs endemically only in a well defined hilly section of marshy undulating country called "brejo", which means swamp. The disease is seen less frequently in flat and dry areas of the hinterland and not at all in the plains and in the coastal region. These data on the incidence of various types of cutaneous leishmaniasis in different geographical zones of distribution clearly indicate, to what extent etiology and epidemiology of this disease are influenced by climatic conditions.

The clinical picture of the American type of leishmaniasis is quite different from the oriental form, eventhough both types are caused by the same organism. During my visits to Brazilian hospital in Rio de Janeiro, Belo Horizonte and Sao Paulo and later to the hospitals of Mexico and Guatemala I was impressed by the fact, that American leishmaniasis does not only affect the skin, but also quite frequently the mucous membranes, especially of nose and throat. Ulcerations resulting from these lesions are usually much deeper than those of Oriental leishmaniasis and frequently leave very unsightly scars. (Picture 4) The disease also takes a

much longer course than the oriental form of cutaneous leishmaniasis. In many instances patients are suffering from the disease for 15 to 20 years or even longer.

On our trip to Yucatan, one of the Mexican federal states, we were especially interested in visiting the well known areas of endemic American leishmaniasis and we hoped to see numerous patients in the jungle villages. Nevertheless neither in the villages nor on the roads we had the occasion to see any patient with florid

leishmaniasis or with typical disfiguring scars on the face, which we have known so well since our visit to clinics in Brazil.

Professor REYES, director of the dermatological clinic at the university in Merina, capital of Yucatan, told us that during his 10 years' activity in the city he had registered not more than 3 or 4 cases of leshmaniasis. In his opinion the recession of that disease is caused by the abandonment of the cultivation of rubber for chewing gum which could no longer compete in the world market. This observation is another proof of the importance of correlations between medicine and sociology. The correctness of this concept we realized at our visit to the dermatological clinic of neighbouring Guatemala. Chiclegum, a crude product for the northamerican chewing-gum industry, is still one of the most important products of agriculture in Guatemala. In the northern part of this country relatively many patients with leishmaniasis are registered, especially in the province of Peten with its backwoods. People who are working in the industry of chewing-gum, so-called chicleros, are taken ill in a higher percentage than other people. They live in these backwoods tapping the trees to win the gum. The phlebotomi are attracted especially by that gum and so the workers are infected more often.

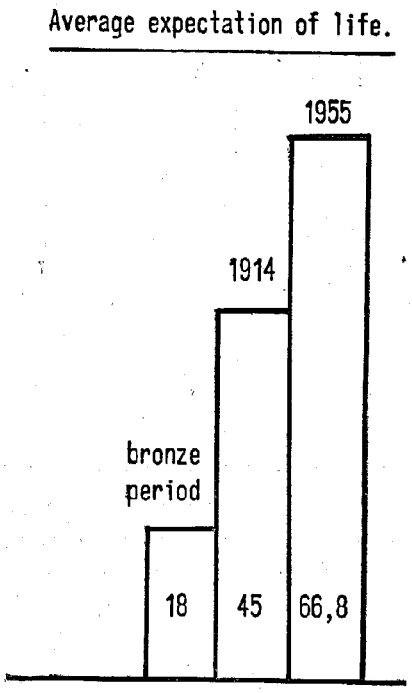
NEURODERMITIS CONSTITUTIONALIS OR ATOPIC DERMATITIS

The phenomenon of atopic dermatitis is one of the topics which were more and more discussed in the last decades. This is surely not accidental. Analogical to this the number of examinations of angina pectoris first described in 1778, and rarely mentioned in the literature during the following 150 years combined with coronary infarction (heart attack) rose up to a high incidence with the enormous development of industrialisation. This frightening increase of coronary infarction has eventually intensified the scientific studies on this topic in the last decades.

Concerning the scientific dermatology a parallel development can be recognized. Atopic dermatitis was first mentioned in 1607 by van HELMONT as an itching dermatosis, combined with asthma. 1808 WILLAN described the picture of "Prurigo formicans" which was doubtlessly identical with "Prurigo diathesique a forme objective eczemato-lichenienne" inaugurated by BROCQ and JAQUET in 1896. There had to pass several decades until scientific studies were done on numerous hospitals especially in industrial districts since the number of cases was increasing. SULZBERGER estimated recently more than 2 million patients with "atopic dermatitis" in the United States; according to SULZBERGER and HILL this disease ranges on the seventh place in the statistics of frequency of all skin diseases in this country.

The markable increasing number of "diseases of civilisation", represented by the examples of coronary infarction and atopic dermatitis, begins in the second half of the 19th century as corollary of the rapid development of natural sciences. It determines in a decisive extent of forms and rhythms in the development of modern civilisation, beginning with the invention of railroads of which contemporaries—

anticipating no goods—predicted that the speed of transportation would lead to a hurtful acceleration of our "life-rhythm". On the other hand natural sciences promote the tremendous progress of medicine leading to a series of inventions which almost deliberated mankind from epidemics of "unculture" as there are pestilence, cholera, typhoid etc.; consequently the average expectation of life is extended. In the bronze-period it was 18 years, 1914 in Germany already 45 years. 1955 even 66.8 years, in England 67, in the United States 69, in the Netherlands 70 years. (Picture 5). In India the average expectation of life is still 32 years



as result of the high mortality of infancy. (Table. C). The world-population is steadily

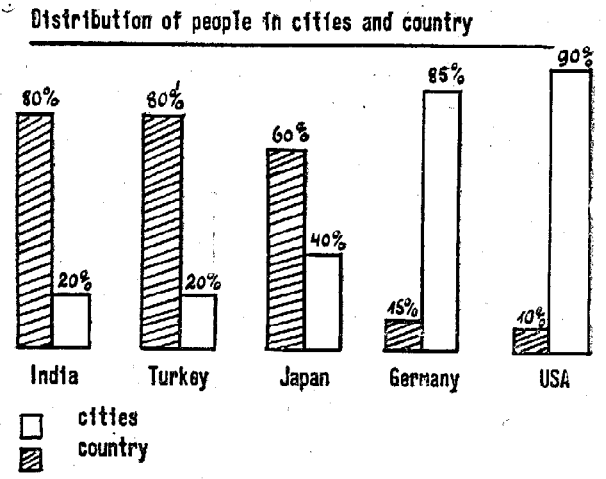
TABLE C

Average expectation of life.

India	32
Germany	66.8
England	67
USA	69
Nether lands	70

increasing with a yearly augmentation of 40 millions, which-and this is very important for our following consideration-concentrate in big cities. Sociologists can by now predict that in the year 2000 a quarter of the world-population would live in cities with over 100,000 inhabitants.

Still 100 years ago in Germany 75% of the population were working in the country, 25% in the cities and now 85% in the cities and only 15% in the country. I add some comparable numbers: in India 80% work in the country. 20% in the cities: the same relation exists in Turkey; in Japan 60% in the country and 40% in the cities, in the USA, the most industrialized country in the world, there are even 90% working in the cities and 10% in the country. (Picture 6). The concen-

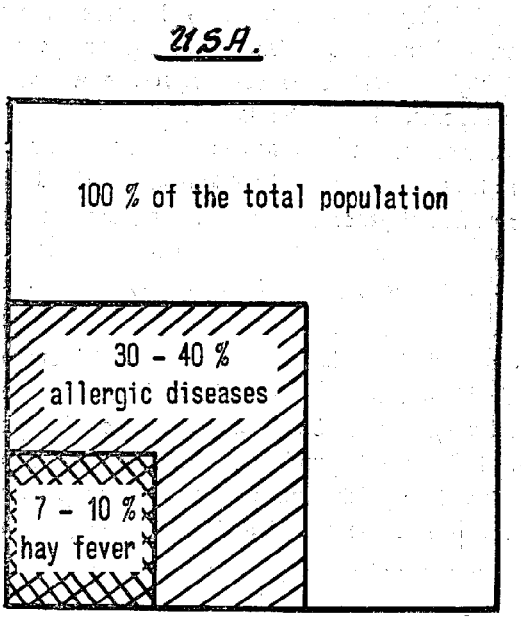


tration of population in big cities and the continuous of civilisation. connected with steadily raising pretensions to a higher standard of life brought evidently not only advantages but also great disadvantages for mankind: people are kept in a persevering tention by continuous irritations as there are: noise, telephon, hurry etc., their nervous system is exposed to a continuous stress. One of the natural results of this development in internal medicine is the already mentioned frightening increase of vessel-diseases, especially angina pectoris and coronary infarction.

Concerning "diseases of civilisation" in dermatology there are the allergic diseases of the skin and mucous membranes. They show a considerable augmentation, as we think as a result of urbanisation and industrialisation, especially in those countries where this evolution took place in a excessive way. It is by no means accidental that the first classic description of eczema came from England and was done by WILLAN; at this time England ahead of all other countries went through the first industrial revolution with all consequences for human life.

Let us return to continue the consideration of the increasing number of allergic diseases which we register at present. ABDERHALDEN reports from the USA the leading industrial country in the world, where the second industrial revolution took place in a similar or even stronger measure than the first one in England that about 7-10% of the population are suffering from hay fever, asthma etc. and a further 30-40% show symptoms of other allergic diseases in their current life.

(Picture 7). According to GUTMANN there were about 3½ – 4 millions of allergic



cases in Germany in 1934. URBACH demonstrated that one generation ago there were only a few thousands of patients suffering from hay fever whereas at present there are several millions of allergy-patients. KARCHER describes the similar development in the big european cities and points out the increasing contact with chemical products as causative for allergic reactions. These products are present in the atmosphere, in cosmetics, in food-stuffs or may even be catched in the working process itself. The datas of causative agents for allergic diseases are not detetmined yet.

One of the allergic diseases, which were raising up extremely during the last decades, is the constitutional neurodermatis = atopic dermatitis as we heard at the beginning. Studies of the georaphical distribution of skin diseases render a very important insight concerning the relation between the increased number of patients with atopic dermatitis and the development of the second industrial revolution. These studies constitute an interesting and attractive field in modern dermatology. The study of the specific geographic distribution of this disease and I had a particular opportunity to do this whilst my 10 years stay in Turkey—reveals that this disease is very rare in the inner part of Anatolia. It is more frequent in bigger turkish cities. QUIRCGA made the same observation in Argentina. JACOBSON showed its relatively rare appearance in Jamaica, GANS in India and Pakistan, KOCHS and BRAUER in Irak and P. S. MEYER in Israel. On my visits in different dermatological hospitals in Middel and South-America, in Africa (Marokko and Aethiopia), in Israel and Poland I stated the rare occurence of atopic dermatitis in those countries where agriculture is predominent.

In addition to these statements we learn from the examinations of HAXTHAUSEN and BONNEVIE that there is a steady increase of atopic dermatitis in Skandinavia, countries where industrialisation is progressing too. The Netherlands, also a country with high industrial advances, register now numerous cases, according to SIEMENS's reports. In the well industrialized part of Western Germany the increasing number of patients with atopic dermatitis is especially evident. As I mentioned before it reasches now to 2 million cases in the USA (SULZBERGER). According to reports from japanese scientists and my own observations in japanese hospitals for dermatology there is also a steady increase of cases with atopic dermatitis in the last decades. Japan is also a country with an enormous industrial evolution.

If we endeavour to find out the origin and the social environments of these patients we get valuable informations by studying the sociological factor: the frequency of occurence is very different between patients from big cities, small towns or from the country. In Turkey I found most of the patients in Istanbul; they came from families who lived in big cities since decades, even centuries. In Hamburg and Munich we found likewise a higher incidence in patients coming from the cities than from small places in the country. (Table D).

TABLE D

Origin of patients with atopic dermatitis.

Univ. hospitals	number of cases	from cities	from the country
Ankara	34	34	0
Hamburg	69	58	11
Munich	400	299	101

The conclusion of these sociological observations is that in numerous cases of atopic dermatitis the disease is the result of increasing civilisation respectively urbanisation.

For other atopic diseases as there are hay fever and asthmatic bronchitis scientific observations gave similar results. REHSTEINER points out that hay fever is more frequent in patients coming from cities than from the country.

Concerning our conception which considers atopic dermatitis as a disease of civilisation we find a confirmation in the facts which we stated in Turkey and lateron in Hamburg and Munich that patients suffering from this disease and their special disposition have to a great deal an intellectual profession. (Table E)

TABLE E

Professions of patients with atopic dermatitis

Univ. hospitals	number of cases	brain-workers	hand-workers
Ankara	34	33	1
Hamburg	69	56	13
Munich	309	181	128

A disease which is so very much dependant on the functional disturbance of the nervous system is able to influence the whole development of the patient in an unfavourable way. To get a summary of social, respectively sociological results of atopic dermatitis we tried with BORELLI and EICHHOFF to find out in a series of examinations the influence of this disease on the professional life. The results are demonstrated in table (Table F). 30% of the patients are handicapped in

TABLE F

Effect of neurodermitis Impairing the professional life of the patient.

	%
Hindering professional succes	29.4
Hindered in practising work	33.0
Obligation of changing the profession	20.4

making their professional way, further 30% are hindered in practising their profession; because of long lasting treatments they cannot fulfill their work, what means a diminution of income and a resulting depression of the social standard of life for the whole family. 20% of our patients were so much hindered in practising their profession that they were obliged to change it.

All these manifestations concerning the effect of this disease on professional life become more readily understood when we realize at what period of life it begins. Our examinations referring to this problem reveal as shown on table G that with about 30% it first occurs between the first and third year of life, with another third the onset of the disease lies between the fourth and twentieth year; this means that almost 70% of the patients are very much disturbed by the consequences of their disease, especially during their professional education.

TABLE G

First occurence of neurodermitis.

	%
Up to the 3rd year	33.3
between the 4th and 20th year	37.3
between the 20th and 49th year	23,3
after the 50th year	6.0

Table H shows that a great deal of patients suffer from other allergic diseases besides the atopic dermatitis.

TABLE H

Other allergic diseases in patients with neurodermitis.

(a) Asthma bronchiale	20.4
(b) Rhinitis	9.8
(c) Urticaria	8.0
(d) infantile eczema	44·5

The sociological observation of this problem is of vast significance for therapeutic measures. We have to change the environment of these people by sending them away from the cities. To eliminate vegetative dystonia which is as decisive in the causing complex at neurodermitis as it is for the aforesaid myocardial infarction quiet surroundings are absolutely necessary. Calmness and distance from the noise and activity of the city are important healing factors for both diseases. Again we see parallels in methods and aims of therapy for these two diseases of civilisation.

Our experiences show, that efficient therapeutic results can be achieved for patients suffering from neurodermitis constitutionalis sive atopica which is known as very resistent to therapy by sending these patients up to an altitude over 1500 m or down to the sea.

In concluding I hope, my statements have been able to show you that social inquiry is not only useful to clear up etiology and pathogenesis of diseases but, also for practical therapy.

In the fifth century A. D., HIPPOKRATES, the founder of the occidental scientific medicine, proclaimed: " Philosophy must be introduced into medicine.".

The results of modern examination concerning the relation between medicine and sociology allow us to suggest changing the sentence of HIPPOKRATES for 20th century medicine as follows: " Sociology must be introduced into medicine."

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