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SCIENTIFIC INVESTIGATIONS ON INFECTIOUS PATHOLOGY IN
THE MONGOLIAN PEOPLE'S REPUBLIC

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SCIENTIFIC INVESTIGATIONS ON INFECTIOUS PATHOLOGY IN
THE MONGOLIAN PEOPLE'S REPUBLIC

[Following is the translation of a review by M. P. Kozlov and G. Ochirvaan, published in the Russian-language periodical Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii (Journal of Microbiology, Epidemiology and Immunobiology) No. 1, 1965, pages 82-85. It was submitted on 9 Mar 1964. Translation performed by Sp/7 Charles T. Ostertag Jr.]

Works which are published in the scientific and popular-scientific journals in the Mongolian People's Republic are still not cited in the medical reference journals and collections in the Soviet Union. Those who desire are deprived of the possibility not only to become acquainted with the trend in scientific research and the achievements of national public health, but also with the epidemiological situation in Mongolia. Besides this, the growth of the economic bonds between the socialist countries, and the cooperative pacts and agreements make it necessary to study the experience which has accumulated in this country, the peculiarities of local pathology, and finally, that modest contribution which the young scientists are introducing into world science.

The present report is a brief review of the works published in Mongolian journals during the period from 1935 through 1963.

For a more complete and objective notion concerning the work being accomplished by the scientists we consider it necessary to preface the main material with some historical facts on the development of medicine in Mongolia.

In Mongolia, scientific European medicine came to replace Tibetan, which prevailed for around 10 centuries, only with the victorious revolution of 1921. Prior to 1930, in connection with the lack of national medical personnel, scientific medicine was introduced almost completely by Soviet doctors. They rendered disinterested help in treating the sick, in organizing a system of public health, and mainly in preparing cadres of the intermediate link. Only by the end of the 30's in Mongolia their own national doctors, trained in the Soviet Union, appeared, and in 1946 the first graduation of national doctors

in a local university took place. Evidently this period must be considered as the period of the birth of medical science in the Mongolian People's Republic. Since then around 23 years have passed. This period is very small for science, especially for Mongolia, in which scientific medicine began to be developed after the rejection of Tibetan medicine exclusively for the base of achievements of modern European medicine with almost a complete lack of medical literature in the native language. It required a great intensity of effort to rapidly create a base and arrive at the carrying out of scientific investigations under conditions where there was a deficiency of cadres and the necessary equipment. All this superimposed an unique imprint on the content of the first works, which had the nature of descriptions of separate cases from practice.

Up to the present time the scientists and practicing physicians of Mongolia have published around 100 scientific works, dealing with the study of medical infectious pathology, and have defended four theses. Besides the small number of works published in the Soviet Union, scientific articles and brief reports are printed in local publications -- in the journal "Science and Engineering" (Shinzhlekha ukhaan, tekhnik), published since 1935, in the collection "Scientific Notes of the University" (Erdem shinzhilgeeniy bichig), which has been published yearly since 1941, in the collection "Scientific Notes on Medicine" (Anagaakh ukhany erdem shinzhilgeeniy bichig), and in the journal "Herald of the Academy of Sciences" (BNMAU shinzhlekha ukhaany adademiyn medee), published since 1961. In 1961 a special collection of works was published, "Concerning Certain Infectious Diseases in the MNR" (BNMAU dakh khaldvart ovchiy zarim asuudal). [MNR = Mongolian People's Republic]

The majority of the published works are original investigations on the clinical picture and treatment of the main infectious diseases in local pathology -- dysentery, infectious hepatitis and children's diseases.

The problem of dysentery is dealt with in the works by Gaamaa (1959, 1961, 1962) on the course of acute dysentery under various methods of treatment and the treatment of patients with various antibiotics, by Tserendolgor (1961), Zhanchivdorzh (1961), Bagaazhav (1960), T. Byambazhav, Iderzhav (1962), Belyaeva (1961) and others on the study of microbiology and microbiology of dysentery, and on the effect of chemotherapeutic substances on the dysenteric bacteria of the Newcastle type. Judging by the material in these works, the relative

significance of dysentery among infectious diseases in the country comprises around 50%. In the etiology of dysentery in adults and children, the main role belongs to the causative agent of the Flexner type (94%) and a very insignificant role to the causative agent of the Newcastle and Sonne type (6%). Dysentery is the most widely distributed disease not only among the adult population, but also among children, especially among nursing children and those still in the crib (around 45% based on the data of Zhanchivdorzha). It is emphasized in the works that in children the acute forms of dysentery often change into lingering, chronic forms and they are one of the reasons for the defective physical development of children and the high lethality (4.1%). The frequent cases of lingering, chronic forms of dysentery are explained by the presence of hypotrophy and rickets, which are detected in children in 37.09% of the cases coming to the clinic. To a significant degree the course of dysentery in children complicates their infectious condition (up to 6.5%) with Lamblia intestinalis (Byambazhav, 1962; Tserendolgor, 1961).

Works on the study of local strains of *Shigella* (Gaamaa, 1961; Sanzhmyatov, 1963) testify to the circulation in the country of strains with a higher virulence and immunogenicity than in the strains of the Soviet Union.

Works dealing with Botkin's disease (Ragzhaa, 1954, 1956, 1960; Sundev, 1957, 1961; Balzhinnyam, 1959; Belyaeva, 1961; Dashdavaa, 1961; and others) bear the nature of clinical-epidemiological observations. Though these works are based mainly on materials of incidence in Ulan-Bator, they make it possible to get an idea concerning the distribution of infectious hepatitis in the country. Gombosuren (1962) considers that the especially wide distribution of hepatitis was achieved in 1961. However, based on the data of Sundev, incidence in the country began to increase sharply as far back as 1953, and by 1955 had doubled and comprised approximately 64.2 for 10,000 of population. According to the data of Ragzhaa (1960) the greatest percentage among hepatitis patients belongs to the age groups under 20 and over 40 years (correspondingly 29.4 and 20%). Among the children of school and preschool age around 77% of the patients were children under 5 years of age. Unfortunately the authors do not present an explanation of the comparatively high incidence of hepatitis in the older age group as a characteristic trait of the epidemiology of Botkin's disease in Mongolia.

Among the number of features in the clinical course of hepatitis, the relative frequency (up to 4.5%) of lingering and recurrent forms is a characteristic (Sundev, 1957; Damdin, 1961). Just as with dysentery, the lingering forms of infectious hepatitis are observed most often in children suffering with rickets. Among the adult population the lengthy course of hepatitis with a transition into a chronic form was noted in patients with tuberculosis and syphilis.

In some of the works there are indications of considerable differences in the manifestations of the separate symptoms in different stages of the disease (a large frequency of high temperature in the pre-icteric phase and cutaneous pruritus in the icteric phase, great expressiveness of the phenomena of allergy and hemorrhages and a very rare megalosplenía).

Data on diphtheria in Mongolian scientific literature are presented in the works of Tsend-Ayuush (1961) and Dulamsuren (1962). The authors stress that neither in age structure nor in the seasonal cycle of the epidemic process with diphtheria in Mongolia is there any difference from its course in other countries. Together with this it is noted that among the various clinical forms in Mongolia, diphtheria of the larynx predominates. Very rarely are such complications as myocarditis and paralysis observed, which are typical for diphtheria. Though in general a light course of this disease is characteristic for Ulan-Bator, the percentage of lethality is relatively high (11.3%), which is apparently explained by the frequency of such accompanying diseases (up to 32.7%) as tuberculosis, rickets, hypotrophy, etc.

There is definite interest in the investigations on measles and whooping cough. Dashdavaa (1961) published clinical-epidemiological observations on measles in Ulan-Bator, conducted by him in 1959. Before him, analogous observations as far back as 1938-1940 were cited by Lipovetskaya.

In comparing his data with the data of Lipovetskaya, Dashdavaa came to the conclusion that the characteristic peculiarities in the epidemiology of measles for Mongolia are the relatively high incidence among people over 16 years in age (5.1% as compared to 0.6% recorded in European countries) and the maximum rise in incidence in January--April, while in other countries the main percentage of incidence takes place in the fall months. Both authors note certain differences in the clinical course of measles, mainly in the weak expressiveness of certain symptoms. It has also been established that in the Mongolian

People's Republic mortality from measles still remains quite high (5.24%), though it has been cut in half in comparison with 1940.

Several original works deal with the problem of brucellosis (Igumnova, 1957, Tserendash, 1962; Damdinsuren, 1963). The contents of these works testify to the high degree of brucellosis infection of the rural population, engaged in animal husbandry and working at enterprises for the processing of animal raw material, and also the high degree of affliction of farm animals. Single works have still not been published on certain infectious diseases, but the investigations are being carried out on a wide scheme. These are in regards to infections which have a wide distribution in the country, (whooping cough, helminthic invasions), and also to infections which, according to the plan of development of the national economy, are subject to liquidation in the country in the next 10 years (typhoid and paratyphoid, rabies, etc.).

The investigations of Dulamsurena (1962) on typhoid have been published. The author notes that typhoid still has a general distribution in the country, but in recent years the incidence rate has dropped sharply thanks to the active carrying out of the appropriate measures. Among those affected the main relative proportion belongs to adults in the age group of 20--40 (around 63%) and children from 6--10 (around 18%). In a seasonal respect an increase in incidence is characteristic for Ulan-Bator from August through November inclusively. A peculiarity in the clinical course of typhoid in Mongolia, just as with other intestinal infections, is the considerably high percentage of recurrent forms (32.4%) and the predominance of a lingering course.

One work (Tserendgva and Tsesren, 1961) deals with the study of the clinical-epidemiological peculiarities of whooping cough. The greatest interest is in the unique seasonal cycle of this disease in Mongolia; here around 50% of the incidence takes place in the spring. It is also characteristic that whooping cough proceeds primarily in a light form; it proceeds in a heavy form in only around 7% of those affected, and as a rule in persons with accompanying illnesses.

A considerable number of works are devoted to the propaganda of medical knowledge and organizational problems in the struggle with infectious morbidity (Shagdar, 1938; Tuvaan, 1938; Zhanchiv, 1949, 1950, 1951; Ragchaa, 1954; Tsagaankhuu, 1959; Dandiy, 1959; Bagaashav, 1950; Baradiy, 1960; Otgon, 1960; Shaaday, 1961; Chagnas, 1961; Choyshilshav, 1962; Samdan, 1963, Gursed, 1963, and others). Though the majority of these articles cannot be regarded under the heading of original works, they contain an element of creativeness on the part of the

authors, who set up and solve the problems in accordance to the peculiarities of local conditions. Along with this it must be noted that in Mongolia there are still those diseases, the study of which is only beginning (anthrax, glanders, toxoplasmosis, etc.).

In concluding the review of Mongolian literature dealing with the study of infectious diseases, it is desirable to express the wish that reports on the works being carried out in Mongolia will be placed in the Soviet reference journals.