

MODERN METHODS OF CONTROLLING THE SPREAD OF ASIATIC CHOLERA.

THERE has been no more striking example of the value of the practical application of modern methods of the prevention of the spread of disease, as compared to older and more antiquated methods, than the manner in which the spread of cholera from the infected localities of Europe to the United States has been controlled.

On former occasions when cholera was present in Europe, the disease either entered the United States or it was necessary to recommend, as in 1892, such extreme measures as the detention of immigrants for a period of twenty days, which practically amounted to the stoppage of immigration and also the exclusion of many articles of merchandise. In view of our knowledge or rather lack of knowledge, of the disease in those days, no one can even now criticize the measures then taken.

Now, however, that the cause of the disease, the *spirillum cholerae asiatica*, is known, and much is known of the manner of propagation and of the viability of this organism, it cannot fail to afford those interested in such diseases a feeling of satisfaction to observe the scientific manner in which our knowledge is practically applied.

The officers of the Public Health and Marine Hospital Service who are charged by law to prevent the entrance of the disease into our land, must certainly be gratified with the results obtained.

When the cholera first appeared in Russia, in May, 1910, the Surgeon-General was notified by the representatives of our Government who were stationed there; he in turn notified his officers at the various ports in this country and abroad to be watchful, and the course of the disease was followed through Russia, till it finally reached Italy. The Service Officers throughout Europe were notified to enforce strictly the Quarantine Regulations of the Treasury Department. As a result all emigrants bound for the United States from infected or dangerous points were either detained at the port of departure for five days prior to date of sailing, or were kept under observation five days from the date of leaving control stations, and so safe-guarded as to reduce to the minimum any danger of becoming infected, the five days of detention dating from the time that their persons and effects were found to contain no food products which could by any chance convey the infection, and from the disinfection of their baggage. The water and food supply of the ship that was to carry them was also investigated.

Inasmuch as the period of incubation of cholera is five days, it might appear that everything necessary had been done. There still remained, however, further risk, viz.: smuggled food products and bacillus carriers, so the ship's surgeon was required to inspect all immigrants twice daily, punching each person's inspection card at each inspection.

On arrival at the port of entry, the quarantine officer again inspected persons and effects, when if found free from danger the immigrants were landed at the immigration station, where they were again examined in accordance with the Immigration Laws, and the medical examiners of this service were also on the lookout for cholera.

Bacillus carriers have been classified under three heads:

1. The carrier who retains the spirillum in his intestines for a few days only (4 or 5) and then falls sick with the disease.

2. The carrier who retains the spirillum in his intestines from 10 to 12 days, but does not become sick. On very rare occasions this type may carry the spirillum for from 20 to 21 days, but this is very exceptional.

3. The carrier (convalescent carrier) who has had the disease and is convalescent, and who ordinarily retains the spirillum for 10 to 12 days, though in one instance the spirillum was carried for 69 days. This type of carrier, presumably, would hardly be able to travel, as the attack must necessarily have been a severe one.

Inasmuch as the great majority of emigrants from infected territory cannot arrive in the United States, as transportation facilities now are, under an average minimum of eleven days, there will have elapsed, with quarantine and other detentions, a total of 16 to 17 days from the date of departure from the home town to the date of arrival in this country. Therefore, with regard to bacillus carriers themselves, the danger is minimized by the time in transit.

Realizing, however, that all human effort, in spite of the best laid plans, might not be uniformly successful, measures were taken to notify the Secretary of the Board of Health of each State of the arrival in his State of immigrants from infected countries. Immigrant destination cards were therefore prepared which gave the name, place of origin, and the address at destination of each immigrant. These cards are mailed the day the immigrant departs from the immigration station, to the Secretary of the State Board of Health, who forwards them to the municipal health officer at the place where the immigrant is destined. The local health officer then can take such measures as are in his judgment necessary to detect any case that may occur in order to prevent the spread of infection. In view of the preceding, the occurrence of a case of cholera seems extremely unlikely.

To round out finally and complete the plan a precis on cholera, its nature, detection and prevention, giving full data and instructions, has been prepared and published in the Public Health Reports, Vol. XXV, No. 44, November 4, 1910.

Thus, once more, has been demonstrated the value of the practical application of scientific facts, in the protection of the health of the people.

The nearest point outside of the United States to which the disease has spread is Funchal, Island of Madeira. In Italy and Russia the disease has decreased markedly, particularly in Italy, where it has almost disappeared.

Since the reappearance of the disease in Russia in May, 1910, there have been reported officially 237,000 cases, with 99,000 deaths; since its appearance in Italy in August, 1910, in accordance with official reports there have been 1,545 cases with 747 deaths.

It is believed that with the return of spring there will be a recrudescence of the disease in the infected portions of Europe, but inasmuch as there will be no relaxation of preventive measures now in force, it is not believed that there is necessity for apprehension, especially as a demonstration of the value of the preventive measures has already been given.

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