Interepidemic Influenza

The study of epidemiology is awakening a greater interest, and enlisting larger efforts in its behalf, than ever before. In his History of Medicine, Garrison speaks of it even today as “the infantile science of epidemiology, just emerging from the descriptive stage.” The predisposing factors of many epidemics of the medieval period, such as the crowded condition and bad sanitation of the walled towns, “the squalor, misrule and gross immorality occasioned by the many wars, by the fact that Europe was overrun by wandering soldiers, students and [others], and by the general superstition, ignorance and uncleanness of the masses”—many of these have gone, let us hope, forever. If some epidemic diseases have almost vanished, or at least become greatly modified in severity or distribution, there are, nevertheless, others still with us to take their victims, and consequently to demand renewed investigation.

Among the earliest of the great medieval pandemics was influenza; it was prevalent in the eighteenth century; the ravages of the great epidemics of 1890 and 1918 are still fresh in the memories of present-day physicians. They should be further aware that the term influenza occupied a conspicuous place among the reported causes of death during intervening periods. In some years the death rate attributed to it has actually been greater than that ascribed to either diphtheria or typhoid, for example. Every physician realizes that there is considerable looseness and inaccuracy in the use of the term influenza. From the standpoint of epidemiology, it is highly important to know whether the so-called influenza of interepidemic years, such as those between 1890 and 1918, is the same disease as that of the pandemic periods.

The crux of the problem is expressed by a recent writer, who asks whether there actually still exists in Europe and North America a residue of cases and deaths from true influenza which keeps a thread of continuity between the great outbreaks. It will be readily admitted that the term influenza is used to cloak much that is not identical bacteriologically or clinically with the memorable epidemic disease. This may be due to faulty or indifferent diagnosis. It may also be due to a change in the type of the disease from decade to decade. There have been times when it has been somewhat fashionable in scientific circles to speak of alterations in infectivity or variations in virulence. In a De Lamar lecture delivered at the Johns Hopkins University, Jordan insisted that there is no escape from the conclusion that the so-called influenza of interepidemic years is in whole or in part different from the influenza of the great epidemics of 1918 and 1890. A great many of the deaths, he adds, are certainly not due to the same microbial causes as those occurring in epidemic years.

The available statistics, so far as they can be utilized for comparison, show many items of similarity between the epidemics of 1890 and 1918. The age incidence, for example, is similar, whereas it is sharply differentiated from that of the influenza of interepidemic years. Difference in racial mortality also occurs; thus the greater relative increase in the mortality from influenza pneumonia in the white population constitutes a distinguishing feature of the 1918 epidemic, and serves to mark it off from the influenza of the preepidemic years. It also seems to Jordan that there is a lack of correspondence between influenza and pneumonia rates in the different periods sufficiently significant to be stressed, even if it cannot be included in the more compelling statistical evidence. The problem here involved is a highly complex one that demands the resources of the most expert, and invites the critical attention of the most skeptical. The uncertainty which remains regarding the real nature of the etiologic microbial agents involved is one of the greatest stumbling blocks in the road to progress. Whether or not one agrees with Jordan’s main thesis, there will be no contradiction of his plea that localized outbreaks and, indeed, individual cases of influenza-like disease and of all mild respiratory diseases seem to demand more searching study than they have yet received, bacteriologically, epidemiologically and clinically.
