INFLUENZA A (ASIAN) 1957

CLINICAL AND EPIDEMIOLOGICAL FEATURES IN A GENERAL PRACTICE

BY

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It is only in the community at large that the true natural patterns of many of the common diseases can be accurately and rationally appreciated, and the general practitioner is probably the medical man best equipped to study such conditions in his own local community. This applies with particular force to the study of the effects of an influenza epidemic. With such a highly infectious yet relatively mild condition the majority of those affected will either treat themselves or remain entirely under the care of their family doctor. Very few will require admission to hospital on account of complications and fewer still will die and be recorded by the Registrar-General.

It is the general practitioner who is able to provide the most accurate picture of an epidemic such as the one just past, but even he will underestimate the total prevalence, as many of his patients will not consult him on account of the mildness of the infections. His figures will put those from hospitals, quoting serious complications and deaths, in their correct perspective.

This paper reports the effects of the recent influenza A epidemic on a south London suburban practice during the period September to November, 1957. The numbers at risk in the practice are shown in Table I.

TABLE I.—Numbers at Risk in Practice

Age:	0-	1-	5-	10-	20-	30-	40-	50-	60-	70-	Total
No.	70	384	455	600	712	875	852	753	488	332	5,521

Diagnostic Criteria.—"Flu" tends to be rather a lax and facile label given to many short-term infections of the respiratory tract of indefinite aetiology. It is almost certainly an inaccuracy when applied during inter-epidemic periods but probably highly accurate when an epidemic is raging, especially when typical cases randomly selected are proved serologically to show evidence of recent infection with influenza A (this was so in this epidemic). Here the diagnosis of influenza was restricted to patients with a sudden onset, considerable systemic disturbance, and symptoms referable to the respiratory tract. Even so, it is probable that there was some inflation of numbers by including some patients suffering from the common prevailing seasonal respiratory infections; but this was more than compensated for by the numbers who did not seek medical attention for one reason or another.

Incidence

The first cases of influenza were seen in the first week in September, and the peak was reached in mid-October (Table II). The age distribution of these cases that were actually seen, diagnosed, and treated is shown in Table III. There were no appreciable sex differences. The age of maximal liability was between 5 and 20, and there was a striking freedom from infection in the elderly.

Whilst there are records of 930 patients who were seen, diagnosed, and treated, a very large number of patients in the practice who were infected did not find it necessary to seek medical attention because they were accustomed to coping themselves, because they were secondary cases in the household and knew the routine care, or because they did

not require any certification for absence from work. It is difficult to estimate these numbers with any accuracy, but possibly some further 300-400 patients were infected in this practice, giving an approximate total incidence rate of 25%. If this rate was representative of the country as a whole, and it is believed that it was, then between 10 and 15 million persons in the British Isles suffered infection—a truly astounding figure. The rate of infection in this particular epidemic was much higher than in three previous epidemics recorded in 1951, 1953, and 1955, when the corresponding rates for estimated total incidence were between 5 and 10%.

TABLE II.—New Cases of Influenza September–November, 1957

Week:	September					October				Nov.	Total
	2	9	16	23	30	7	14	21	28	4	
No. of new cases	15	34	61	102	148	160	204	146	52	8	930

TABLE III.—Age Distribution of Influenzal Cases

Age:	0-	1-	5-	10-	20-	30-	40-	50-	60-	70-	Total
No. of cases	12	92	138	218	127	111	103	72	43	14	930
% of those at risk	18	24	30	36	18	13	12	10	9	4	17

It was commonplace to see whole families go down together, either simultaneously or one after the other. The incubation period appeared to be between 48 and 72 hours.

The first wave of infection affected principally those aged 11 to 18. Next followed a spread to younger children and older members of their households. By the third and fourth weeks the epidemic was less discriminating regarding age distribution.

Clinical Features

The onset was striking in its suddenness—the time could often be given to the minute. The initial symptoms were malaise and variable degrees of prostration, chills, aching back, head, and limbs, a running nose, rawness in the throat and chest. A dry and explosive cough soon developed and sputum when present was inconspicuous and mucoid in character. Profuse sweats were accompanied by a fever up to 106° F. (41° C.).

Examination revealed a sick, prostrated, and feverish patient. The pulse rates corresponded to the height of the fever, but in some cases an excessive bradycardia was noted. Abnormal signs in the respiratory tract were relatively insignificant. The fauces were reddened, but not excessively so. Erythematous patches were often noted on the palate. The ears were normal in all except the 9 cases in which an acute otitis media developed. No abnormalities were detected in the chest, apart from the 28 patients who developed complications. The eyes were not abnormally reddened when the high fever and general flushing and hyperaemia were taken into account. Gastro-intestinal disturbances such as vomiting and diarrhoea were most unusual. Epistaxis occurred in 10 children. Enlargement of the post-occipital glands was not infrequent in young children and a faint macular-erythematous rash was noted in four instances.

Course and Management

The acute phase lasted an average of three to five days and was followed by a slow and often prolonged convalescence. The period "off work," in those at work, averaged 10 to 14 days. The degree of post-influenzal depression and debility appeared less profound than in previous epidemics. In 18 patients of all ages an apparent recurrence of symptoms took place some 10 to 21 days from the initial onset. This recurrence, although prolonging the duration of the illness, was not associated with any increased liability to complications.

The management was essentially symptomatic, with analgesics and linctuses as the basic remedies. No attempts at chemoprophylaxis were employed in any patient, and antibiotics were found necessary in only 24 patients with complications. Penicillin by intramuscular injection was used in 20 and oxytetracycline in 4.

The influenza A epidemics of 1950-1 and 1953 were similar in extent and in age distribution, while the epidemic of influenza B in 1955 was less extensive and a little more likely to affect young children. The present epidemic of influenza A was very much more extensive, nearly three times as great as the two previous A epidemics, and affected young persons and children to a dramatic degree.

Comparison of the incidence of the various chest complications also reveals striking differences (Table IX). The highest rates of complications were noted in the 1950-1 epidemic, when 20% of those seen developed chest complications. The A epidemic of 1953 and the B epidemic of 1955 both had around 10% of complications, whereas the present epidemic had a rate of only 3%—a remarkable difference.

TABLE IX.—*Chest Complications of Influenza Epidemics of 1950-1, 1953, 1955, and 1957*

	1950-1 (A)	1953 (A)	1955 (B)	1957 (A)
No. of 'flu cases ..	223	264	150	930
Chest complications ..	43 (20%)	29 (12%)	15 (10%)	28 (3%)
Pneumonias ..	37 (17%)	17 (7%)	11 (7%)	18 (2%)
Acute bronchitis ..	6 (3%)	12 (5%)	4 (3%)	10 (1%)

All these comparisons suggest that there are real differences between each influenza epidemic, the extent varies, and each has its own predilections for certain age groups, and each has different rates of complications. These differences probably depend on such factors as the virulence and the antigenic strains of the virus, past experience of the community with that particular strain of virus, the time of the year that the epidemic strikes, and the prevailing climatic conditions at that time. Would the rate of complication have been higher if the present epidemic had struck in mid-winter with severe cold, damp, and fog?

As regards the immediate future, it is difficult to forecast the further course of this epidemic, but from the past experience of previous epidemics there is little reason to believe that a "second wave" will strike in the coming winter months. Apart from the epidemic of 1918-20 this has not been a feature of influenza.

The use of vaccines would appear to have a very limited place in the management and prevention of influenza. For these to be effective they would need to be administered a reasonable time before the epidemic arrived; a good deal of warning would have to be available in order to prepare the vaccine in time, and in view of the unique nature of each epidemic a new vaccine would have to be prepared for each successive epidemic; and, finally, in view of the almost certain insufficiency of supplies, the choice of the recipients for the vaccine would be a delicate and unwelcome task.

Conclusions

This report of the clinical and epidemiological effects of the recent influenza A epidemic on a single south London practice confirms the characteristics that have already been reported. The experiences in this particular practice show that it was a very widespread infection affecting predominantly young persons, but that it was of a relatively low degree of virulence. However, in an epidemic that has probably affected between 10 and 15 million persons in the British Isles the fortunate experience of this practice, in having no deaths, was not universal, and it is also probable that at least 5,000 persons died from direct or indirect effects of the epidemic, a rate of 1 death for every 2,000-3,000 cases of influenza.

Summary

A report is presented on 930 cases of influenza A (Asian) seen during the recent epidemic in a south London general practice.

These cases represent an incidence of 17% in the practice, but it is estimated that at least 25% of the population at risk were affected. Highest rates were recorded in children aged 5-10 (30%) and in teenagers (36%).

The clinical features were those common to all influenza epidemics—a sudden onset, marked prostration and fever, respiratory tract symptoms, and a slow and prolonged convalescence.

There was a low rate of complications—only 4%. Acute chest infections accounted for 3% and middle-ear infections for 1%. All these infections were mild

and cleared satisfactorily at home with antibiotics. No patient required admission to hospital and no patient died from the effects of influenza.

The epidemic produced a fivefold rise in the volume of work in the practice.

Comparisons with previous epidemics of 1950-1 (influenza A), 1953 (A), and 1955 (B) show marked differences in age distribution and rates of complications.

It is probable that each influenza epidemic has a pattern and character of its own, with a varying extent of spread, age distribution, virulence, and complication rate. With the present epidemic it is considered unlikely that "second waves" will occur. Vaccines have a very limited practical place in prevention.

The present epidemic has been mild but extremely widespread. It is estimated that some 10-15 million persons were infected in this epidemic and that around 5,000 persons have died from direct or indirect effects of influenza, giving a rate of 1 death for 2,000 to 3,000 cases of influenza.

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REFERENCE

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A TRIAL OF PENICILLIN AND CHLORTETRACYCLINE IN TREATMENT OF BRONCHITIS*

REPORT FROM THE CITY GENERAL HOSPITAL, SHEFFIELD

The successful antibiotic treatment of acute exacerbations of chronic bronchitis remains uncertain, despite the wide choice of theoretically suitable agents now available. The high incidence of bronchitis in this form and the high mortality rate resulting from the disease make it essential to select the most reliable of these remedies without recourse to extensive preliminary investigations. Moreover, the chosen drug should be effective when given orally and its toxicity should be low enough to permit safe domiciliary use. The principal aim of this trial was to decide which of the two antibiotics, penicillin by injection and chlortetracycline ("aureomycin") orally, was the more effective in the treatment of bronchitis. This paper records the clinical and bacteriological results obtained.

Selection of Patients

All patients were adults suffering from an acute exacerbation of bronchitis, and all had emphysema of varying degree. They were admitted as emergencies to medical wards. Those who had received a sulphonamide or an antibiotic within the previous two weeks were excluded, as were cases of asthma or tuberculosis. The patients were divided into two groups—those who appeared to be suffering from bronchitis only, and those in whom bronchitis was complicated by congestive heart failure of pulmonary origin. Subsequent investigation proved the diagnosis of bronchitis wrong in 11 cases, which were then rejected from the series. Similarly, in 10 cases heart failure was found to be due to other causes and these also were eliminated from the trial. Finally there were 47 cases of uncomplicated bronchitis and 37 cases of bronchitis with pulmonary heart failure.

*Those taking part in the study were:—*Clinicians*: Drs. F. J. Flint, R. W. Meikle, J. E. Middleton, and T. L. Morris. *Bacteriologists*: Drs. E. H. Gillespie, M. Pownall, and J. E. M. Whitehead.