Tuberculosis Casefinding Among Aliens Who Entered New York City in 1971

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WITH THE SUSTAINED DECLINE in new active cases of tuberculosis in the United States, it is probable that a greater percentage of persons with newly diagnosed cases may have been infected abroad where the active case rates are much higher than they are here. In an effort to control the influx of such persons, the Public Health Service's Foreign Quarantine Service requires applicants for visas to emigrate to the United States to undergo a medical evaluation that includes a chest roentgenogram (*1,2*).

Based on the results of their medical evaluations, aliens admitted to the United States with established or suspected tuberculosis are classified as either class A—having established or suspected active tuberculosis, or class B—having inactive tuberculosis. As of 1970, immigrants with a class A condition are required by the Federal Government to present themselves to the local health department for followup when they arrive at their intended residence, whereas those with a class B condition are requested to do so.

To determine the effect of these aliens on the tuberculosis incidence in New York City, data were reviewed on all who were federally referred for followup in 1971 (table 1). The majority, 61.9 percent, came from Asian countries (50 percent from Hong Kong), and 21 percent came from South America. The Federal program in New York City referred 738 immigrants; 199 or 27 percent were designated as class A and 539 or 73 percent as class B. Additionally, the Center for Disease Control in Atlanta, Ga., referred 61 immigrants after their roentgenograms were evaluated and designated as class A.

Followup was completed (satisfactory disposition obtained) for 77.1 percent of the 799 federally referred patients, and 22.9 percent were lost to followup. More class A patients received satisfactory followup (83.8 percent) than did class B patients (73.8 percent), a reflection of the priority placed on the outcome of class A patients. Of all the federally referred patients, 86 percent were followed up at facilities of the New York City Health Department, and 14 percent were seen by private physicians.

The diagnoses for 218 class A patients and 398 class B patients for whom followup was completed are shown in table 2. A total of 18 new active cases were found. Of the class A patients, 12 had active pulmonary tuberculosis and 1 had active nonpulmonary tuberculosis. Of the class B patients, 3 had active pulmonary tuberculosis and 2 had active nonpulmonary tuberculosis. In both classes of patients, all those whose tuberculosis activity was undetermined were subsequently found to have inactive tuberculosis. The 18 new active cases represented 0.8 percent of the 2,572 new active cases reported in New York City in 1971.

Thus, Federal referrals resulted in the detection of a few persons with active disease and in the introduction of some persons with inactive disease to the medical care system. There are indications, however, that other persons with tuberculosis are not being detected when they enter the United States.

During 1971, approximately 370,000 aliens legally entered the United States, and 71,347 of these stated that they intended to live in New York City, according to personal communications from the Immunization and Naturalization Service in Washington, D.C., and New York City. It has been suggested, however, that the number of illegal aliens greatly exceeds that of legal ones. Persons entering on a visitor's visa and then not leaving

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the country may account for more new foreign-born residents in New York City each year than the number of legal entrants. Additionally, many people are issued visitors' visas that are valid for varying lengths of time, and there are other temporary residents who are not required to have medical examinations. Thus, the small federally referred group with abnormal chest roentgenograms came from this entire pool of aliens. Other patients with newly diagnosed active cases of

Table 1. Number of aliens referred by Federal screening program for tuberculosis followup, by country of origin and disease classification, New York City, 1971

Country	Total number	Total class A	Followup, class A				Total class B	Followup, class B			
			Completed		Not completed			Completed		Not completed	
			Number	Percent	Number	Percent		Number	Percent	Number	Percent
Hong Kong	172	17	16	94.1	1	5.9	155	122	78.7	33	21.3
Philippines	69	3	3	100.0	0	0	66	46	69.7	20	30.3
Haiti	57	3	1	33.3	2	66.7	54	32	59.3	22	40.7
Italy	49	6	6	100.0	0	0	43	24	55.8	19	44.2
Korea	44	1	1	100.0	0	0	43	32	74.4	11	25.6
Taiwan	21	0	0	0	0	0	21	17	81.0	4	19.0
Santo Domingo	19	9	9	100.0	0	0	10	6	60.0	4	40.0
Jamaica	18	0	0	0	0	0	18	13	72.2	5	27.8
Ecuador	17	0	0	0	0	0	17	11	64.7	6	35.3
Japan	13	0	0	0	0	0	13	11	84.6	2	15.4
Greece	11	2	2	100.0	0	0	9	8	88.9	1	11.1
Canada	8	0	0	0	0	0	8	7	87.5	1	12.5
India	5	0	0	0	0	0	5	4	80.0	1	20.0
England	4	0	0	0	0	0	4	2	50.0	2	50.0
France	4	0	0	0	0	0	4	3	75.0	1	25.0
Spain	4	4	4	100.0	0	0	0	0	0	0	0
Austria	3	0	0	0	0	0	3	2	66.7	1	33.3
Lebanon	3	0	0	0	0	0	3	3	100.0	0	0
Bahamas	2	0	0	0	0	0	2	2	100.0	0	0
Malaysia	2	0	0	0	0	0	2	2	100.0	0	0
Mexico	2	0	0	0	0	0	2	2	100.0	0	0
Portugal	2	1	0	0	1	100.0	1	1	100.0	0	0
Thailand	2	0	0	0	0	0	2	2	100.0	0	0
Trinidad	2	0	0	0	0	0	2	1	50.0	1	50.0
Argentina	1	0	0	0	0	0	1	1	100.0	0	0
Germany	1	0	0	0	0	0	1	1	100.0	0	0
Indonesia	1	0	0	0	0	0	1	1	100.0	0	0
Israel	1	0	0	0	0	0	1	0	0	1	100.0
Netherlands	1	0	0	0	0	0	1	1	100.0	0	0
Poland	1	0	0	0	0	0	1	1	100.0	0	0
Unknown	260	214	176	82.2	38	17.8	46	40	87.0	6	13.0
Total	[1]799	[1]260	[2]218	83.8	[3]42	16.2	539	398	73.8	141	26.2

[1] Includes 61 referred from the Center for Disease Control. [2] Includes 30 referred from the Center. [3] Includes 31 referred from the Center.

NOTE: Class A, having established or suspected active tuberculosis; class B, having inactive tuberculosis.

Table 2. Diagnoses for class A and class B tuberculosis patients federally referred for followup and for whom followup was completed, New York City, 1971

Diagnosis	Class A		Class B	
	Number	Percent of total	Number	Percent of total
Active pulmonary tuberculosis	12	5.5	3	0.8
Inactive pulmonary tuberculosis	142	65.1	349	87.7
Pulmonary tuberculosis activity undetermined[1]	39	17.9	12	3.0
Active nonpulmonary tuberculosis	1	.5	2	.5
Nontuberculosis abnormality	9	4.1	10	2.5
No abnormality	13	6.0	22	5.5
No diagnosis given	2	.9	0	0
Total	218	100.0	398	100.0

[1] Final diagnosis was inactive pulmonary tuberculosis.

tuberculosis come to the attention of the New York City Health Department because they have symptoms and seek treatment or they are detected through local skin testing or other screening programs.

Study Method

To determine the number of persons with tuberculosis in New York City in addition to those federally referred, a retrospective study was made by using a 50 percent sample of the 2,572 patients with newly reported active cases of tuberculosis in 1971. The 2,572 patients were stratified by residence in the health districts in New York City. A systematic sample within each stratum was drawn by a proportional sampling mechanism to identify the 1,300 persons in the study. Information from their chest clinic records was studied and then broken down into place of birth and length of time in the United States.

Results

The United States was the birthplace of 663 or 51 percent of the 1,300 persons. The birthplace of 439 or 33.8 percent was unknown, and 198 or 15.2 percent were born outside the continental United States and Puerto Rico. Of the 198 persons, 51 had lived in the United States more than 20 years, 35 between 6 and 20 years, 59 between 1 and 5 years, and 38 less than 1 year before they came for treatment of their tuberculosis.

The preceding figures are obviously minimal, based only on information from patients with a place of birth noted on their records. Since 33.8 percent of the records showed birthplace unknown, some persons born abroad were necessarily not considered in the tally. It would seem, therefore, that some persons in this group would be among the federally referred if they were legal immigrants. However, among the 38 patients who lived in the United States less than 1 year, only 4 were federally referred for followup. It can be assumed that the other federally referred patients were among those unsampled, or the 33.8 percent whose birthplace was unknown. Some of this discrepancy may be accounted for by the sampling mechanism.

These results are interesting and disturbing. They show that in New York City, based on the 50 percent sample, we could expect that at least 76 persons with new active cases of tuberculosis had been in the United States less than 1 year. The Federal referrals were responsible for identifying only 18 (24 percent) of these 76 active cases. The remaining active cases must have been in illegal entrants, temporary visa holders, or visitors, as well as persons missed by the Federal screening program.

Discussion

Apparently a number of immigrants with tuberculosis enter the United States without being screened by the Federal program. Many temporary visa holders and illegal immigrants do not enter the program. As for legal immigrants, it is known that in the past some have purchased normal chest roentgenograms. It is also possible that some roentgenogram evaluations are erroneous or that small lesions are missed. However, in a recent personal communication, Dr. Vernon N. Houk, deputy chief of the Tuberculosis Branch of the Center for Disease Control, stated that the Center has been constantly reviewing the problem of purchased roentgenograms for the past several years and has found that its frequency is miniscule. He also reported that the Center monitors the quality of the X-rays done abroad and is satisfied that the quality is as good as in most parts of the United States.

Since the number of federally screened aliens is estimated to be only 24 percent of the immigrants with new active tuberculosis who have been in the United States less than 1 year, it might be productive to seek tuberculosis among those not being screened by the Federal program. It is almost impossible to ascertain whether some aliens are legal permanent residents, illegal entrants, or temporary visa holders because they are reluctant to volunteer this information. Therefore, we suggest that the health department might use ethnic community groups, community centers, and neighborhood health centers for a tuberculosis screening program for immigrants.

Mass screening programs for tuberculosis have fallen out of favor with the decline of the disease. However, screening of certain high-risk groups is recognized as an important method in tuberculosis control. New arrivals to the United States could benefit by such a directed approach.

REFERENCES

(1) Amendments to medical provisions of immigration laws. Circular No. 137, Dec. 21, 1965. Center for Disease Control, Atlanta, Ga.

(2) Amended list of dangerous contagious diseases: New procedures for administering class A or B aliens with tuberculosis or leprosy. Circular No. 163, Sept. 18, 1970. Center for Disease Control, Atlanta, Ga.