REPORT OF STUDIES OF THE 1932 EPIDEMIC OF INFLUENZA IN PUERTO RICO

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I. EPIDEMIOLOGY

Epidemics of influenza which show world-wide prevalence are not common events and usually occur at intervals around 20 to 30 years, more or less. The epidemic which spread throughout the entire world in 1918 originated in Asia and moved both west and east. The two waves met on the Pacific Coast of the United States. The careful and clinical epidemiological studies made since the epidemic of 1918 have left little doubt in the mind of most observers as to the identity of such interpandemic outbreaks as those of 1920, 1927 and 1928–29 in the United States and those of 1922, 1927 and 1928–29 in England. While it is true that definite epidemiological knowledge is essential before arriving at a definite conclusion, it does not seem unjustifiable to assume that on account of the modern condition of transportation there is no break in the continuity of the disease throughout the civilized world. This view is supported by the many outbreaks reported in Europe and America since 1918.

During July, 1932, influenza in epidemic form appeared in the city of San Juan, Puerto Rico. During the week of July 3 to July 9, five cases of influenza were reported to the Division of Epidemiology of the Health Department (2). The following week of July 10 to July 16, forty cases were reported. During the month of July a total of 3,780 cases were reported in the city. The disease rapidly reached its climax and began to decline. From San Juan it spread to the

Note:

This work was carried on by the authors at the request of the Hon. Commissioner of Health of Puerto Rico, Dr. A. Fernós Isern, who in the presence of an epidemic of influenza which rapidly spread from San Juan to other towns of the Island, thought it of interest to obtain data which might in some way help in the fight against the disease.

rest of the island. (See table I). The epidemic affected a large proportion of the population of Puerto Rico, but the disease was apparently benign if compared with the epidemic of 1918. How it was brought to San Juan is still a mystery. There was no epidemic of the disease at that time in ports with which we have the greatest contact. During the latter part of June there was a tourist excursion from San Juan to Havana where it was said influenza was prevalent. Some of the excursionists returned to San Juan with an affection of the respiratory tract diagnosed as grippe.

TABLE 1

CASES OF INFLUENZA REPORTED DURING THE EPIDEMIC OF 1932 IN PUERTO RICO

	JULY					Aug.	Sept.	Oct.	Total
	3—9	10—16	17—23	23—31	Month			**	
San Juan *	5	40	2,450	1,285	3,780	479	52	8	8,099
Ponce *	—	—	—	23	23	2,164	678	23	2,911
Caguas *	—	10	107	150	267	4,604	98	3	5,239
Arecibo *	—	—	—	3	3	1,864	358	108	2,336
Cabo Rojo *	—	—	—	12	12	1,494	0	0	1,518
Cayey *	—	—	—	4	4	605	1,682	22	2,317
Gurabo *	—	—	—	—	—	510	0	4	514
Juncos *	—	—	—	—	—	869	20	8	897
Mayagüez *	—	—	—	11	11	1,557	3,179	83	4,841
Río Piedras *	—	—	5	4	9	3,752	258	55	4,083
San Lorenzo *	—	—	—	—	—	458	32	0	490
Other towns (66 towns)	18	5	74	178	275	6,467	7,005	2,920	16,942
Total	23	55	2,636	1,670	4,384	24,823	13,362	3,234	50,187

** Cases informed include only the first 26 days of the month.
* Sanitary surveys carried on to locate cases not reported by physicians.

The last epidemic of influenza which appeared in the island of Puerto Rico occurred in the year 1918–19. (3) At that time there were 261,826 cases reported througout Puerto Rico with 10,888 deaths. That epidemic lasted from October 1918 to January 1919.

The recent epidemic (1932) lasted from July 3 to about the end of October, having in that time affected 50,187 people in practically all the 77 municipalities of the island.

The total number of cases registered up to September 19, 1932, reached 40,165. Out of these, 6,258 were reported by attending physicians while the other 33,907 were located by

means of field surveys undertaken by the personnel of the Health Department of Puerto Rico. (2 and 10).

From the epidemiological studies carried out by the Division of Epidemiology of the Department of Health of Puerto Rico, approximately 25 per cent of the cases had to go to bed, 50 per cent stayed in their homes but did not go to bed, and about 25 per cent were classified as ambulatory.(10)

During the epidemic there was some increase in the mortality from influenza, pneumonia and bronchopneumonia in August and September, as compared with the same months during the previous year. (1)

TABLE 2

DEATHS AND DEATH RATES FROM CERTAIN CAUSES DURING THE YEARS 1932, 1931 AND 1918

Year	ALL CAUSES		INFLUENZA		BRONCHITIS		PNEUMONIA		BRONCHO-NEUMONIA	
	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate	Deaths	Rate
1932										
July	2,995	22.1	12	8.8	74	54.5	121	89.1	157	115.6
August	2,975	21.9	109	80.2	75	55.2	98	72.2	200	147.3
September	3,170	24.1	109	82.9	68	51.7	108	82.2	218	165.8
1931										
July	3,015	22.5	17	12.7	82	61.3	102	76.3	197	147.3
August	2,783	20.8	18	13.5	79	59.1	86	64.3	163	121.9
September	2,510	19.4	9	7.0	63	48.6	76	58.7	138	106.6
1918										
October	2,923	27.1	67	62.0	115	106.4	70	64.8	77	71.3
November	5,750	55.0	1,841	1761.1	280	267.9	396	378.8	265	253.5
December	7,586	70.2	3,516	3254.9	318	294.4	457	423.1	365	337.9

Rates from All Causes per 1,000 population.
All other rates per 100,000 population.

II. CLINICAL STUDY

The recent epidemic, which probably began in the latter part of June 1932 and has spread through the entire island, is the first epidemic of influenza registered in Puerto Rico since 1918. In comparison with the epidemic of 1918 the features which have distinguished this outbreak were the mildness of the attacks, the relative infrequency of complications and the associated low mortality rate.

TYPES OF THE DISEASE

The prevailing picture of the disease has been that of a respiratory infection. In all cases seen by us, in which the

diagnosis of influenza seemed justified, the respiratory tract was involved. The mortality returns from most of the large cities of the world show that influenza leaves its impression only in an increased number of deaths from respiratory disease, which marks with accuracy the prevalence of an epidemic in a certain locality. Symptoms from other organs may be due to toxemia, the local lesion may be slight and easily overlooked in the predominance of nervous, gastric, and febrile disturbances.

SIMPLE FORMS WITHOUT COMPLICATIONS

This group comprises the large majority of the cases. The onset was sudden and without prodromal symptoms. The initial symptoms were chilliness, general malaise, and severe aching pains throughout the entire body. In many cases prostration was marked from the beginning. Headache was common. The temperature curve oscillated from 100°F to 105°F, in most cases being between 102°F. and 104°F. The pulse rate varied between 80 and 100 and the respiratory rate was slightly accelerated. A few hours after the onset, coryza and sore throat developed, accompanied by a dry irritating cough. Gastro-intestinal symptoms such as nausea, vomiting, and diarrhea were rare except in children.

THE COURSE OF THE DISEASE

The course of the disease was short. The average duration of the temperature was from three to five days. The respiratory symptoms became well marked after a 24 hour period, and the progress of the disease was marked subjectively by a sensation of tightness beneath the sternum, accompanied by a hacking cough. The sputum at first was scanty and mucoid in nature, later becoming mucopurulent. Examination of the chest revealed little that was abnormal except when the large bronchi were involved, in which case scattered sibilant râles were present. Examination of the blood has shown leukopenia except in the very mild cases where the white count was within normal limits. All blood cultures taken were sterile. The urine showed traces of albumin consistent with a febrile condition.

Recovery was prompt in most instances except in the severe cases. Relapses were rare in this type of the disease.

SIMPLE FORM WITH COMPLICATIONS

Between the cases of mild uncomplicated influenza and the severe pneumonic forms there was a type which was characterized by bronchitis. This usually began about the first or fourth day when recovery from the primary condition was expected. The patients coughed more frequently and the expectoration increased in amount and consistency, changing from a mucoid to a mucopurulent or purulent type. Examination of the chest revealed coarse or fine moist râles scattered throughout the lungs. The percussion note was normal; vocal breath sounds and tactile fremitus were absent. The average temperature ranged from 100 to 102°F. In some cases the bronchitis persisted for weeks.

PNEUMONIC TYPE

Pneumonia, except as a terminal condition following severe acute infections, post-operative, or in the aged or extremely young is not of common occurrence in Puerto Rico. For the purpose of comparing data, the cases of pneumonia hospitalized at the Presbyterian and University Hospitals of San Juan during the months of June, July, August and September, 1931 and 1932 were compared. It was found that in these months during the year 1931, 9 cases of pneumonia were admitted to the above hospitals. One of these cases, a baby, developed pneumonia following an operation for the extraction of foreign bodies from the trachea, and another was a miliary tuberculosis. Five of the cases were of bronchopneumonia and 4 of frank lobar pneumonia. There were three deaths. During the same months of the year 1932, 19 cases of pneumonia were admitted to the same hospitals, 10 of which were frank lobar pneumonia and 9 bronchopneumonia. One case developed pneumonia as a *post partum* complication, but the remaining 18 cases were admitted as frank pneumonias. There were 6 deaths. For a period of six weeks (August 1st. to September 18th.) the Transmissible Diseases Hospital of the Department of Health was turned into an emergency Hospital for the care of severe cases of influenza. During this time 18 cases of pneumonia were admitted. Of these, 12 cases were under the direct care of the writers. There were 8 cases of lobar pneumonia and 10 cases of bronchopneumonia. Bacteri-

ological examination of the sputum revealed the presence of pneumococci in 12, of which five were type 2; four, type 3 and three, type 4. There were no deaths.

SYMPTOMATOLOGY

The primary influenza was the same as in the simple form. The onset, physical signs, and course of the pneumonia varied from those of a mild type with limited pulmonary involvement, from which there was prompt recovery within 7 or 8 days with complete resolution of the pneumonic areas, to those of a rapidly progressive pneumonia with fatal outcome. The involvement in most cases was bilateral in the beginning of the disease, but had a tendency to localize itself in one lung as the condition advanced. The physical signs usually appeared first at the lower lobe and varied from day to day as the disease progressed. The temperature curve was very irregular, rising in most cases to a 105°F or 106°F. The pulse was low in proportion to the temperature. The respiratory rate varied in accordance with the severity of the condition. Cyanosis was common. Early pleurisy was seen in several cases. The sputum was usually profuse, purulent in type and pink or yellowish-green in color. The total white count averaged between 10,000 and 13,000 and the differential count showed about 75 per cent of neutrophiles and 24 per cent lymphocytes. Blood cultures were negative in all the cases. Resolution was complete although slow in many cases.

COMPLICATIONS

Influenza predisposes to secondary infections with a variety of organisms. Otitis media, sinusitis and laryngitis, were frequent complications. Two cases of meningitis were seen, and in one, Pfeiffer's bacillus was isolated from the spinal fluid. One case died of encephalitis. Acute pericarditis was seen in one case. The commonest sequela was clinical bronchitis.

III. LABORATORY STUDIES

In 1892 Pfeiffer discovered the influenza bacillus and for 25 years this was generally accepted as the cause of the disease. After this, the position of Pfeiffer's bacillus as the etiological agent of the disease was shaken. Kristensen,

1922, in Copenhagen (6), examined the nasopharynx in 135 soldiers suffering from the uncomplicated form of the disease and found Pfeiffer's bacillus in only nine instances. Ledingham in 1922(8) observed the disease in Mesopotamia and was unable to find the bacillus in his cases. On the other hand Blake, Rivers and Small(9) found Pfeiffer's bacillus present in almost all of their cases. The question of the presence or absence of this organism in the early stages of the uncomplicated disease is of course of importance.

THROAT CULTURES

Sixteen cases of influenza in its early stage were selected. Two swabs were taken daily from every patient, one from the surface of each tonsil. The swabs were labelled and seeded immediately. A blood agar plate and a chocolate agar plate were divided in two and the swab from each tonsil was plated on one half of the culture media*. After 24 hours incubation the colonies present were studied macroscopically, microscopically and culturally, and a diagnosis of the organisms present was made. Only aerobic methods were employed in this phase of the study. The results obtained from this bacteriological study of the throats was tabulated and studied carefully, comparing certain of our results with a similar study which was carried out in Puerto Rico and New York by Morales Otero(4) and Coburn(5) in the normal throats of Puertorrican adults and of other normal people in New York City. Chart No. 1 gives a graphic demonstration of the presence of certain of the more common organisms found

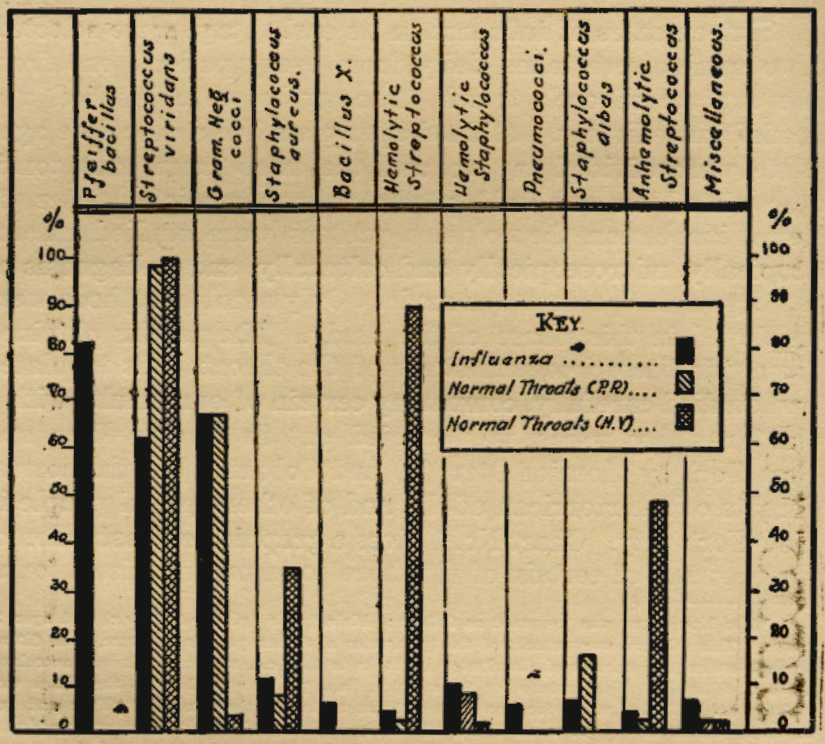
* The blood agar was prepared as follows: Plain broth (pH 8) 1000 c.c. and agar 20 grams. This mixture was autoclaved thirty minutes at fifteen pounds pressure, then filtered through cotton and gauze and distributed in flasks in 250 c.c. amounts. It was autoclaved again at fifteen pounds pressure for 20 minutes, final pH being 7.6 when the plates were to be poured. When ready for use the agar was melted in the Arnold sterilizer and subsequently cooled to 45° C. when 7 c.c. of freshly defibrinated rabbit blood were added to each 250 c.c. of agar. Agar and blood were gently but thoroughly mixed and then poured into sterile Petri plates. The contents of each flask were distributed among ten plates, each, therefore, containing approximately 25 c.c. of the medium. The plates were allowed to cool and inverted to prevent the water of condensation from falling on the surface of the agar. Fresh defibrinated rabbit blood was used every day, in order to be able to detect true hemolysis and observe the green discoloration of the neumococci and the green producing cocci.

Chocolate Agar: Plain agar (pH 7.6) was kept in 100 c.c. amounts in flasks. The agar was melted in a water bath and when at 95° C., 10 c.c. of fresh defibrinated rabbit blood were added. The mixture was rotated gently but in a way to insure the thorough mixing and was dispensed in plates.

The material on the swab was smeared carefully over the edge of the plate (media) and spread evenly with a previously sterilized platinum spatula.

in the throats in the cases of influenza under study and in normal throats in Puerto Rico* and New York*. Table No. 3 gives the same details in each individual case studied and in the total, and also gives a summary of the findings of the study of normal throats in Puerto Rico and New York. Chart No. II indicates the percentage incidence of

CHART 1. PERCENTAGE INCIDENCE OF THE COMMONER ORGANISMS IN THE THROAT FLORA IN CASES OF INFLUENZA AND IN NORMAL INDIVIDUALS.



the three most commonly found organisms in the cases of influenza according to the day of illness on which the culture was taken. The cultures were taken every day with the exception of Sundays. This chart was computed from the individual record of each patient.

* Findings by month obtained from the original statements (4).

TABLE 3

BACTERIOLOGICAL FINDINGS OF THE THROAT IN INFLUENZA CASES AND IN NORMAL INDIVIDUALS

		Pfeiffer's bacillus	*Streptococcus Viridans*	Gram negative cocci	*Staphylococcus Aureus*	Bacillus X *	Hemolytic Streptococcus	Hemolytic Staphylococcus	Pneumococci	*Staphylococcus Albus*	Anhemolytic Streptococcus	Miscellaneous	Total number of Cultures
1	A G M	77.7	100.	77.7	11.1			11.1					9
2	F C	100.		100.								100.	1
3	A C	100.	41.6	100.	16.6							8.3	12
4	V S	62.5		100.		12.1	25.		12.5	25.			8
5	E C	81.8	63.6	36.3	18.1	18.1	9.	18.1	9.	18.1		9.	11
6	C R	83.3	33.	50.				33.	16.5	16.5		16.5	6
7	J M	72.7	43.6	27.2		9.1		18.2		9.1			11
8	V M C	100.	75.	100.	—	—	—	—	—	—	—	—	4
9	C Ll	100.		100.	50.	—	—	—	—	—	—	—	2
10	L M	54.5	90.9	45.4	18.1	—	—	—	—	—	—	9.	11
11	J G	100.	57.1	57.1	14.2	—	—	—	14.2	14.2	—	—	7
12	L B	100.	50.	100.	—	—	—	75.	—	—	—	—	4
13	R O	66.6	83.3	100.	—	16.6	16.6	—	33.2	16.6	—	—	6
14	L A	100.	—	100.	33.3	—	—	—	—	—	—	33.1	3
15	T H	63.6	81.8	27.2	27.2	18.1	—	—	—	—	—	18.1	11
16	A O	100.	80.	80.	—	—	—	—	—	—	—	—	5
	Average	80.1	60.3	65.7	11.7	6.3	3.6	10.	5.4	7.2	—	7.2	111
Normal, Puerto Rico		0	98.1	65.1	7.3	0	1.8	9.1	0	18.2	3.6	2.7	109
Normal, New York		0	98.9	2	34.3	0	89.9	1	0	5	48	2.-	99

The figures express percentage incidence of the total number of cultures made.
Normal throats — Puerto Rico — August 1929 (4) Normal throats — New York — June 1929 (5)
Influenza cases — Puerto Rico, July and August 1932.
(*) Hemolytic Gram negative bacilli.

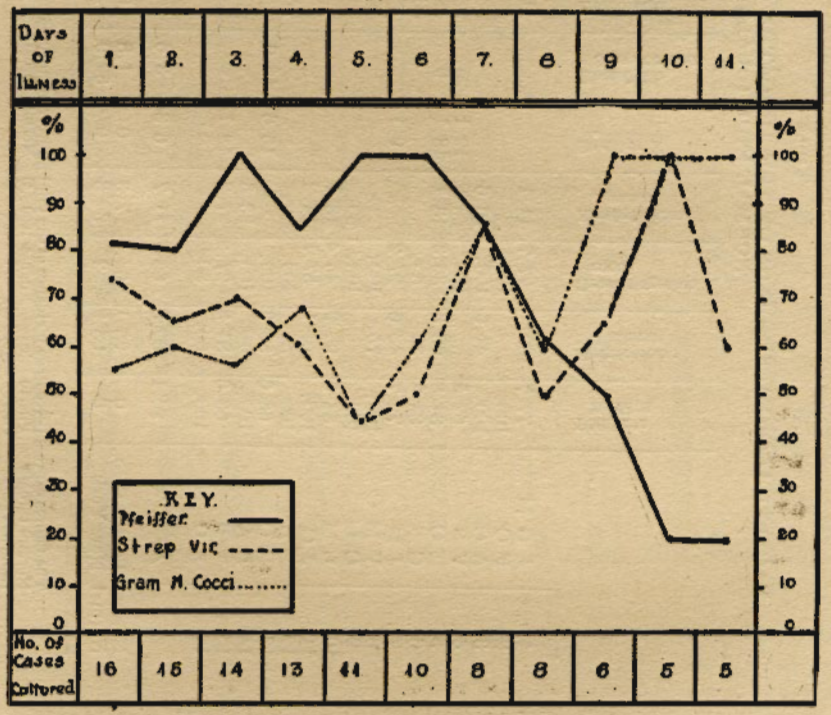
TABLE 4

THROAT CULTURES BY DAYS

(Figures indicate percentage)

Days	1	2	3	4	5	6	7	8	9	10	11	12
Pfeiffer	81	80	100	84	100	100	87	62	50	20	20	100
Strep. viridans	56	60	57	68	45	60	87	62	100	100	100	100
Gram Negative cocci	75	66	70	61	45	50	87	50	66	100	60	100
Total Number of Cases Cultured	16	15	14	13	11	10	8	8	6	5	5	1

CHART 2 – INCIDENCE OF B. PFEIFFER, GRAM NEG COCCI AND STREP VIRIDANS IN THE THROAT OF INFLUENZA CASES



BLOOD CULTURES

Nine blood cultures were made on the complicated cases. 10 cc. of blood were collected in 100 cc. of plain broth pH 7.4 and incubated at 37°C. Daily observations were made for a period of three weeks. All the cultures were negative for microorganisms of any kind.

SPUTUM EXAMINATIONS

A microscopical examination of 13 cases showed negative results for bacillus tuberculosis. Bacteriological examination however, revealed the presence of pneumococci. Typing of these organisms demonstrated one (7.6%) belonging to Type I; five (38.4%) to Type II; four (30.7%) to Type III, and three (23%) to Type IV.

PLEURITIC FLUID

Bacteriological examination and animal inoculation (guinea pig) with three pleuritic fluids were done. Results were negative in two cases. In one case, Pfeiffer bacilli were isolated.

MISCELLANEOUS EXAMINATIONS

In ten of the cases a complete blood study according to the most modern methods advocated by Wintrobe, Castle and others, were carried out. The results of this study can be seen in Table 5. Practically all the cases showed some type of anemia but there was no definite clear-cut picture common to all. The total white counts in the complicated cases showed a moderate increase in the total number of leukocytes and in the neutrophiles, but not the characteristic count of typical lobar pneumonias.

A microscopical study of the feces was made in twelve cases, nine of which showed negative results, two revealed the presence of ascaris and one the presence of trichuris. These findings were of no significance.

The blood Wassermann performed according to a modified Wassermann technique employing 0.4 per cent colesterinized antigen and ascending doses of serum, vis. 0.15, 0.1, 0.05 and 0.025 cc., were negative except in one case which was positive. The Kahn reaction performed in the same blood serums revealed negative results in every case.

TABLE 5

BLOOD STUDY

Hemoglobine		Erythrocytes (Millions)	Packed Cells	INDEX			Mean cell volume (cu. microns)	Mean cell Hemoglobine (micrograms)	Mean cell HB Conc. (%)	LEUKOCYTES						Malaria
Gms. per 100 cc.	Percentage		Hematocrit Reading	Color	Volume	Saturation				Count in Thousands	Lymphocytes	Basophiles	Eosinophiles	Neutrophiles	Monocytes	
12.1	84	4.8	33.9	0.8	1.01	0.9	70.8	25	35	6.6	44	4	1.5	53	1.5	Neg.
12.9	89	5.01	39.5	0.8	0.8	1.03	79.	25.8	30.1	5.2	38	.....	3	59	—	Neg.
10.1	70	2.81	21.5	1.24	0.85	1.5	70.2	35.5	46.5	8.24	16	.....	.....	82	2	Neg.
9	62	4.01	23.5	0.69	0.64	1.08	58.3	22.4	38.2	7.2	25.5	.....	.....	71	3.5	Neg.
12	80	2.3	29.2	1.5	1.3	1.1	126	52.	42.2	16.4	10.	.....	.....	86.3	3.6	Neg.
9.6	66	3.94	28.2	0.84	0.79	1.07	71.6	24.1	31.9	11.85	31.	0.5	1	66	1.5	Neg.
11.6	80	4.01	29	0.89	0.89	1.1	72.3	28.9	40.0	11.5	19.7	.....	.....	73	7.5	Neg.
10	69	3.55	36	0.9	1.1	0.9	101.4	28.1	27.	6.05	29	.....	0.5	68.5	2	Neg.
10.8	80	4	24.1	0.9	0.6	1.3	61.2	27.	40.8	24.0	9	.....	.....	90	1	Neg.
12.6	87	4.77	34	0.8	0.79	1.04	71	24.3	37	7.9	40.5	.....	2	55.5	2	Neg.
										5.4	42	.....	4	54	—	Neg.
										6.2	27.5	.....	3.8	67.3	1.3	Neg.

In four of the most severe cases complicated with pneumonia a chemical study of the blood was made denoting retention of the nitrogenous components of the blood.

A total of 25 urines was examined. The findings were not significant; 12 of them showed traces of albumin and in the sediment the presence of renal epithelium or casts. The specific gravity varied from 1.004 to 1.022 and the reaction of the urine also varied.

IV. EXPERIMENTAL

The widespread dissatisfaction with the evidence that Pfeiffer's bacillus is the cause of epidemic influenza directed the attention of many observers towards the possibility of a filtrable virus being the real cause of the disease. Among the investigators who sustained the filterpasser theory of influenza, Olitsky and Gates (7) have contributed very interesting results. Their experimental work on rabbits, their cultural experiments with the isolation and cultivation of *Bacterium pneumosintes* and the immunological relationship of their viruses to the disease are most interesting. These results however, have not been generally accepted. As far as the cultivation and properties of *B. pneumosintes* is concerned a good deal of confirmatory work is found through the literature. In two cases of our series we were able to cultivate Gram negative filterpassing anaerobic organisms but no attempts at classification were made.

We were interested in the possibility of infecting human volunteers by inoculating them with nasopharengeal washings of cases of influenza and the filtrates of these washings.

METHODS

Five individuals during the active stages of influenza were selected. Two of the five cases were officers of the reserve corps that had passed a complete physical examination in the afternoon. The night of that same day they began to feel ill and next morning they had fever, severe headache, photophobia, lacrymation and a thin watery discharge from the nose. The material for inoculation was obtained by gently running peptone broth pH 7.4 into the nose and thence through the mouth and by gargling with 10 or 15 cc. of the same solution. The material was collected in sterile bottles

and thoroughly shaken with sterile glass beads and then passed through Berkefeld V filters.

Normal volunteers who gave a history of not having had any respiratory disease during the past year were inoculated with the washings and filtrates thus obtained, by atomizing their noses and throats several times.

Eighteen volunteers were inoculated in all, eight with the Berkefeld filtrates and ten with the direct washings. They were carefully observed for respiratory manifestations after inoculation and followed by us every day for a period varying from 6 to 15 days. None of the 18 cases showed any symptoms during the period of observation.

SUMMARY

1. From the epidemiological and clinical standpoints, the epidemic of a respiratory nature which appeared in San Juan during July 1932 and thence spread to the rest of the island of Puerto Rico, was epidemic influenza.
2. The total number of cases reported in a period of approximately four months reached 50,187. The mortality rate for influenza, pneumonia and bronchopneumonia, showed an increase during the months of August and September while the epidemic was at its peak.
3. The distinguishing feature of this epidemic outbreak (1932) has been the mildness of the disease when compared with the previous epidemic (1918). The predominating symptoms were respiratory; the gastro-intestinal and nervous types of the disease were seen only in children. Complications by bronchitis, pneumonïa, otitis media, laryngitis and sinusitis were fairly common.
4. Pfeiffer bacilli were constantly found in the throats of all the influenza cases studied, in some of them in large numbers. Influenza bacilli predominated during the active stages of the disease and began to decline towards convalescence and recovery. *Streptococcus viridans* and Gram negative cocci decreased during the active stages of the disease and increased during convalescence and recovery.
5. Experimental attempts at transmission of the disease, by inoculating normal human volunteers with nasopharyngeal washings and Berkefeld filtrates of these washings, of cases of influenza were negative in every instance.

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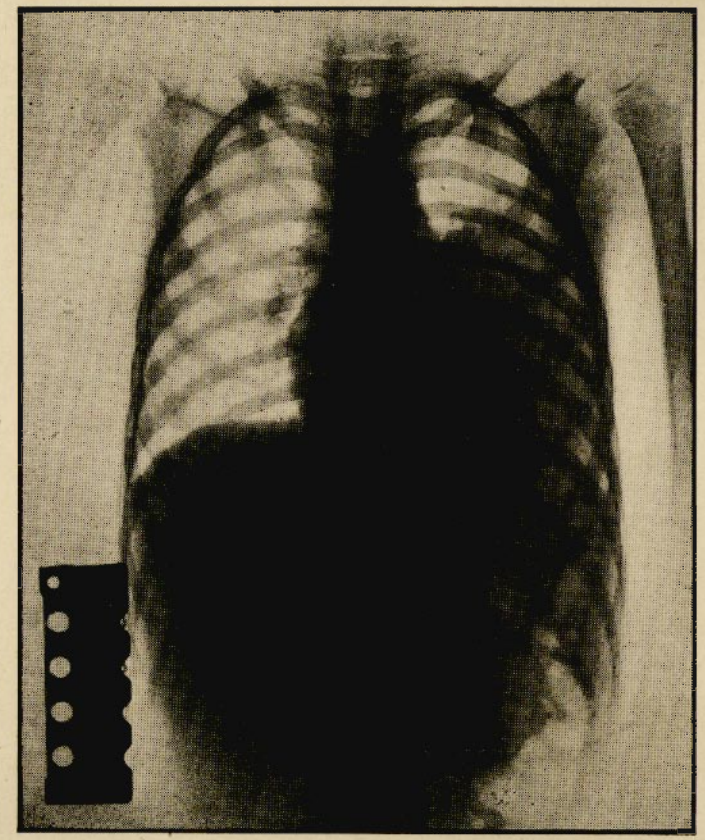
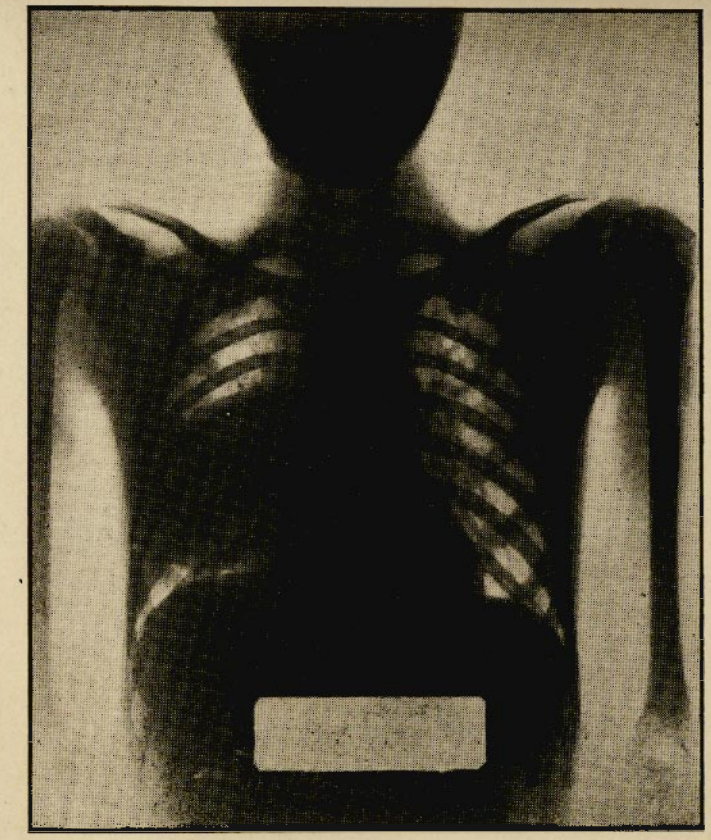
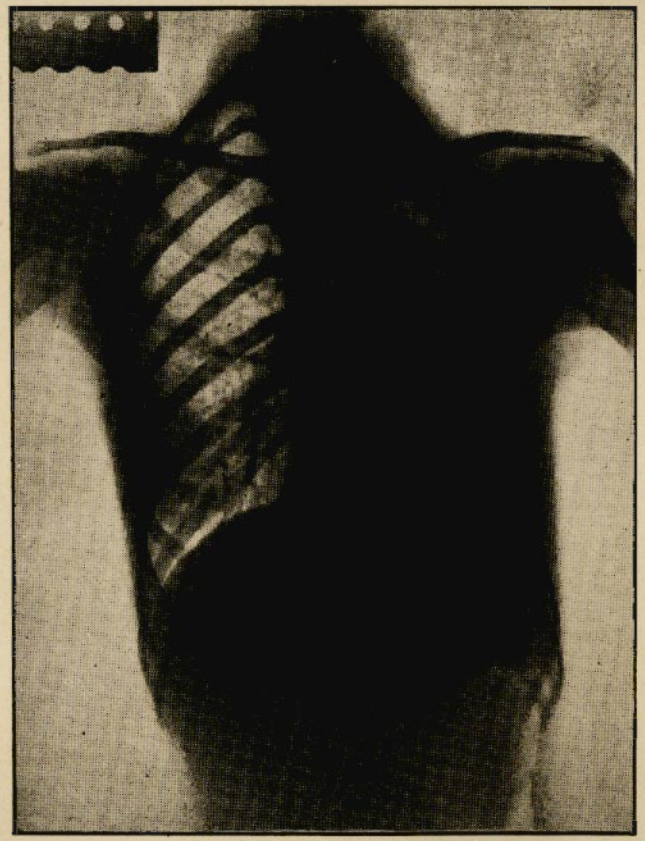


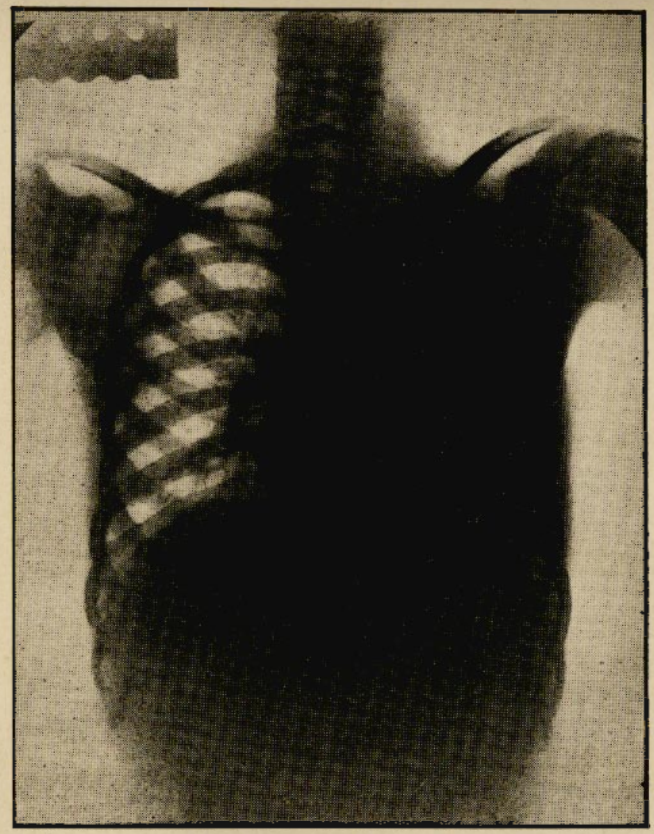
Pneumonia with Consolidation of the Inferior Lobe of the Left Lung.



Lobar Pneumonia of the Right Middle Lobe.



Pneumonia of the Left Lower Lobe with Slight Amount of Fluid. Cortical Pleurisy of the Vertex of Same Side.



Pneumonia of the Left Lung Complicated with Pleurisy with Effusion.