The method we have adopted consists in either spreading a thick layer of the oleate ointment on a single thickness of white gauze and then applying it to the wound, or spreading the oleate direct on to the surface of the wound and then covering it with a single layer of gauze. This dressing does not need to be changed for several days, and, when it is removed, strips off from the sensitive surface without any dragging or pain. It is equally applicable to any large flat-surfaced wounds, such as those left after wholesale excision of the thigh or buttock muscles, and so forth.

We have used this dressing continuously until granulation was complete; the process appeared to occur normally, no retardation or deficiency of formation of granulation tissue being observed. It has the advantage that it adheres sufficiently of itself and requires no bandage or pad to retain it in contact with the wound. The injured part can therefore, except for its covering of proflavine oleate gauze, be left fully exposed to the air under a bed cradle covered with a layer of butter muslin.

We would suggest that after all operations in which a flat raw surface is necessarily left, the wound should, from the first, be dressed with proflavine oleate, in the manner we describe.

NOTE ON THE CHEMICAL AND ANTISEPTIC PROPERTIES OF PROFLAVINE OLEATE.

By C. H. BROWNING, M.D., D.P.H.,

Director of the Bland-Sutton Institute of Pathology, Middlesex Hospital.

Proflavine oleate is the oleic acid salt of 3.6 diamino-acridine (the sulphate of this base being the water-soluble proflavine which has already been employed as an antiseptic in wounds). This compound is one of various salts prepared by Dr. E. L. Kennaway of this department with a view to obtaining flavine derivatives whose chemical and physical properties should fit them for special uses. Proflavine oleate is comparatively insoluble in water; but when this substance or the ointment containing it is shaken with serum the latter dissolves sufficient of the compound to acquire marked antiseptic properties. Thus the use of proflavine in the form of oleate enables a "dépôt" of antiseptic to be placed at the disposal of the tissues.

SOME EXPERIENCES OF THE RECENT INFLUENZA EPIDEMIC IN BRISTOL.

BY

JOHN W. TAYLOR, M.D., Ch.B., M.R.C.S.,
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OVER 400 cases of influenza came under my care during the recent epidemic in Bristol.

Civil Cases.

I first noticed what appeared to be cases of influenza in civil practice at the end of May, 1918. The patients, who complained of pain in the limbs, feverishness, and slight catarrh, recovered in a few days. In June the same symptoms were noted, with more fever. From July onwards the cases presented more marked pyrexia, and it appeared that three distinct types could be distinguished:

1. Very sudden onset; rapid occurrence of what may be described as acute bronchiolitis; oedema of the lungs, followed by death in two or three days.
2. Influenza, uncomplicated; slow recovery, followed by debility.
3. Influenza, with pneumonia, mostly bronchopneumonia, which ensued after four or five days, followed in some cases by death, but usually by recovery with protracted convalescence.

There were three cases of the first type, two in July, one in October; all died.

There were over 60 cases in civil practice in July; they included six of pneumonia with two deaths; the deaths were of Type 1. From July 31st, 1918, to January 17th, 1919, over 200 cases were treated in my civil practice; of these, 38 developed pneumonia; there were eight deaths, two of which occurred in hospital. The total number of cases was greater than 200, but the number of deaths is correct.

The patients were largely of the artisan class, living in small rooms in a somewhat crowded district. For the most part isolation at home was impossible; there were many instances of a whole family being struck down, the incubation period ranging from a few hours to two or three days—in most cases a few hours. Many apparently weak individuals recovered and the more robust succumbed.

Several phthisical patients recovered, and similar fortune attended some cardiac cases. Two cases of acute cardiac dilatation occurred after the patients had resumed their occupations; both were examples of organic disease previously existing; both recovered ultimately.

Epistaxis was a not infrequent symptom; three cases required plugging. The help afforded by the health nurses, and the possibility of removal of bad cases to the city hospitals, were of great value.

Up to the end of July salicylate was generally given. Strychnine was useful in pneumonia; quinine was not used; alcohol was of value in suitable cases, but entirely withheld in convalescence. Oxygen was useful. No vaccines were used.

Summary of Civil Cases.—The total number of civil cases was over 270; pneumonia occurred in 44, 15 were removed to municipal hospitals and 3 to other hospitals. The deaths numbered 10.

Military Cases.

During this time I was engaged as Civilian Medical Practitioner at the White City Barracks, Bristol. There were 130 cases of influenza amongst the troops there. They presented somewhat similar features to those in my civil practice; cases I have designated as Type 1 were absent, and there were no deaths. In the early stages of the epidemic the cases presented, on the whole, a fairly high pyrexia, but recoveries were rapid and without any marked after-effects. Salicylate proved most effective in these early cases. Until June the camp hospital consisted of a wooden hutment, well ventilated, but inadequate for acute conditions or illness of any duration; it only served for very temporary accommodation. In June the new hospital was ready. Its construction and equipment, liberally supplied by the authorities, were quite sufficient for these cases, and so relieved other and more important centres much occupied at that time with the exigencies of the military situation.

On admittance patients were placed in the ward reserved for acute cases, and were not removed into the general ward until the temperature had remained normal for at least forty-eight hours, other things being equal. The infection did not spread to the general ward.

The worst cases occurred in October and November. There were twelve of pneumonia (bronchopneumonic type, scattered over both lungs) and one had a large amount of pleuritic effusion. All cases recovered.

One man showed signs of severe streptococcal infection with great prostration; this man had V.D.H. of some years' standing, after rheumatic fever. He had prolonged haemoptysis, and for some days his condition was hopeless; the urine was almost solid with albumin on boiling.

His illness began on October 30th, 1918, with a temperature of 100°, a much less severe onset than many lighter cases. After being up a fortnight he developed acute cardiac dilatation with rapid pulse and extension of cardiac dullness on December 7th. Suitable treatment proved availing, the albumin disappeared, and he is now walking about. No growth was obtained from a blood culture, which, unfortunately, was taken rather late in his illness; the Widal reaction was negative; he was inoculated in November, 1917.

Six officers, removed elsewhere, are not included in the record. They all recovered. One had a streptococcal infection of the throat, with much oedema; one was a relapse after a first attack three weeks previously.

From the onset of the epidemic all men on sick parade were treated with nasal and throat spraying with potassium permanganate and saline, and all troops warned to report if feeling the slightest symptoms of illness. Later, when the epidemic assumed a more serious aspect, thymol solution was used in Rogers's coarse crystal spray. All who slept out were so treated; the hospital and billets were daily sprayed with cresyl. Of nine women employed in the offices three acquired influenza and recovered. One female attendant in the officers' mess suffered, and out of ten in the canteen three had influenza mildly, and all recovered.

No vaccines were used either for prophylaxis or treatment. Four of the hospital orderlies were affected; one

had a slight attack in June, and one, whose duties were chiefly of an administrative character, in November; the two orderlies in charge of the scabies block had influenza mildly. Most of the men in the camp in June and July were also stationed there during the more severe times in October and November, but there were only two relapses, both severe.

Summary of Military Cases.—In May, 7; average strength of troops 1,350. In June, 5; strength 700. In July, 86; pneumonia 1; strength 490. In August, 3; strength 500. In September, none. In October, 11; pneumonia 4; strength 650. In November, 13; pneumonia 7; relapses 2; effusions 2; strength 600. In December, 5; streptococcal throats 2; strength 1,008. Total military cases treated 130. Pneumonia 12; relapses 2; streptococcal throats 2; deaths 0.

I am indebted to Major E. U. Bartholomew, R.A.M.C., S.M.O. I.W. and D.R.E., under whose administration the work was carried out, for permission to publish these notes. The nursing orderlies exhibited remarkable endurance, and to their many acts of unselfish devotion the record of no deaths is largely due.

The good results in the military cases were due, I believe, to the better surroundings, the preventive spraying, and the possibilities of close observation permitting of very early isolation.

OBSERVATIONS ON THE INFLUENZA EPIDEMIC IN THE BRISTOL GENERAL HOSPITAL.

WITH SPECIAL REFERENCE TO THE USE OF "N. PANE'S SIERO ANTIPNEUMONICO" FOR PROPHYLAXIS AND TREATMENT OF PULMONARY COMPLICATIONS.

BY

A. J. LIM, M.D. EDIN., D.T.M. LIVERPOOL,
HOUSE-PHYSICIAN.

SINCE October 11th, 1918, seventy-six cases have been admitted under Dr. G. Parker and Dr. J. O. Symes, seven of which we have lost. Thirty-seven of the cases had double pneumonia and the rest had influenza.

INCUBATION PERIOD.

From the appended table and from the June epidemic the approximate average incubation period is seen to be about forty-eight hours.

Patient.	Probable Date of Infection. Date when Influenzal Case was Admitted into the Ward.	Onset of Illness.	Approximate Incubation Period.
Nurse A ...	Oct. 11, evening	Oct. 14, morning	60 hours
Nurse B ...	Oct. 15, evening	Oct. 17, evening	48 "
Nurse C ...	Oct. 20, morning	Oct. 22, morning	48 "
Nurse D ...	Oct. 25, morning	Oct. 27, morning	48 "
Nurse E ...	" "	" "	48 "
Nurse F ...	" "	" "	48 "
Nurse G ...	" "	" "	48 "
Nurse H ...	Oct. 25, 1 p.m.	Oct. 27, afternoon	50 "
Patient A ...	Oct. 18, afternoon	Oct. 19, 11 p.m.	30-33 hours
Patient B ...	Oct. 20	Oct. 22	48-55 "
Patient C ...	Oct. 22, morning	Oct. 23, evening	32-35 "
Patient D ...	Oct. 29, afternoon	Oct. 31, morning	42-46 "
Patient E ...	Oct. 30, morning	Nov. 1, evening	50-56 "
Patient F ...	Nov. 2	Nov. 4	45-50 "

IMMUNITY.

One of the main characteristics of the present epidemic has been the escape from infection of the entire male staff, while the female staff suffered heavily. Of one hundred and four of the regular nursing staff thirty-six developed influenza, and about twenty maids out of a total of about forty were affected. This, no doubt, was due to the fact that in the June epidemic all the male staff and only six of the nursing staff were afflicted, and it is to be assumed that they must have acquired immunity from their previous attacks.

The question then arises, How have the remaining sixty-two nurses escaped infection? The prophylactic measures adopted consisted of gargling and the administration of a vaccine, consisting of ten millions each of pneumococci and streptococci, and fifteen millions each of *Micrococcus catarrhalis* and *Bacillus influenzae*. The injection was repeated a week later.

Of the vaccinated nurses, six developed reactions amounting to a mild form of influenza which lasted only for twenty-four hours.

SYMPTOMS, CLINICAL COURSE OF THE DISEASE, AND TREATMENT.

To facilitate the description of treatment the cases will be divided into three groups:

Group A. Simple influenza.

Group B. Simple influenza with commencing pulmonary complications.

Group C. Influenzal pneumonia.

Owing to the exigencies of space the symptoms and treatment of simple influenza will not be described here.

From the appearance of the respiratory system in three autopsies and from the symptoms often presented in influenzal cases, one would surmise that a descending acute dry inflammatory process occur in the respiratory system in cases which showed a tendency to pulmonary complication.

In cases occurring under Group B it is to be gathered that the inflammation has spread to the smaller bronchi and the surrounding lung tissue, so that small and deep-seated bronchopneumonic patches develop either in one or both lungs, while later, such

as in the cases under Group C, these deeply seated bronchopneumonic patches rise to the surface, becoming confluent with neighbouring patches, form quite a considerable patch of consolidation, but as both lungs are usually involved, patches of consolidation varying in size are usually present in both lungs. The importance of Group B is from the prophylactic point of view, but, unfortunately, the symptoms and physical signs are so vague that they are liable to be overlooked.

The symptoms and signs which we depended upon as indications that this stage has been reached are as follows:

1. Persistency of the cough.
2. Gradual rise of temperature or a sudden rise of temperature after the previous temperature has reached normal, associated with a rise in the respiration rate usually to over 25.
3. One of the following signs in the chest: deficiency in the entrance of air over one portion of the lung; signs of generalized bronchitis, or the presence of dry or moist râles localized to some portions of the lung or lungs.

Charts 1 and 2 illustrate the beneficial effect of Pane's antipneumococci serum in cases under Group B. The serum apparently retarded the progress of the development of the respiratory complication, as indicated by the sudden drop of the temperature, also of the pulse and respiration rate, and the disappearance of the signs found

CHART 1.—This chart and Chart 2 illustrate the effect of antipneumococci serum in cases under Group B. A, Serum 5 c.cm. B, Serum 10 c.cm.

CHART 2.—A, Serum 5 c.cm.