

vein be ligatured at the same time; pulmonary pyæmia will inevitably occur. I have seen such cases, and Lane mentions a very striking one on page 263 of the Transactions of the Clinical Society, vol. xxii.

It is well known that pyæmia occurs from disease of the temporal bone independently²² of thrombosis of the lateral sinus, or of extra-dural abscess. Under such circumstances it behoves us to inquire whether surgical interference offers any hope of life to the patient. The answer to this question is, for me at least, an emphatic affirmative. Whether the sinus be full of clot or moving blood it matters not; in either case the poison is being poured into the sinus or, say, through the vein of the cochlea into the jugular; and the method which has proved efficacious in saving life in the one case will assuredly, if promptly applied, be equally successful in the other. The local disease of mastoid or petrous must be freely exposed and asepticated with sublimate solution. The vein must be ligatured in the neck, and the sinus must be freely exposed in the usual way behind the ear, opened and plugged. Thus an artificial thrombosis of the blood arrested between the plugged sinus and the ligature on the vein will be effected. It will then not be possible for any further infection to happen from the primary focus of disease, for the collateral circulation is not sufficient to carry the infective material down the other jugular, as is shown by the histories of the four cases on which I have operated. The whole or the greater part of the clot thus artificially induced would not at first be other than healthy in character, but it might subsequently become infected with micro-organisms, in which event it would be easy to wash it out, especially if the lower end of the upper segment of the vein had been stitched to the margins of the skin wound in the neck. By these means the surgeon may erect an effectual barrier against further acute pyæmic infection from the primary focus, which may at once be successful in arresting the symptoms of danger, or may materially assist a patient in combating the symptoms of acute pyæmia until the chronic stage is reached, which in this disease is always of hopeful import as far as life is concerned.

It is impossible to close this paper without referring to the question of prophylaxis. How much better it would be if patients would submit to, and their advisers would recommend, the adoption of more radical measures than simple antiseptic irrigation of the meatus in cases of long-standing caries of the temporal bone. Pyæmic infection of the sinus may at any moment happen, and then a prolonged and critical operation must at once be undertaken if the patient is to be snatched from death. In this respect the history of Case 4 is very instructive. The symptoms were discharge from the ear and occasional earache for two years. During all this time loss of strength and general signs of ill health were noticed. The opening of the mastoid antrum, discovered at the final operation to be filled with inspissated pus, any time during these two years would in all probability have arrested the bone disease and prevented the onset of that pyæmic state which nearly brought this patient to an early death, and from which she was with difficulty rescued by a hurried and complicated operation.

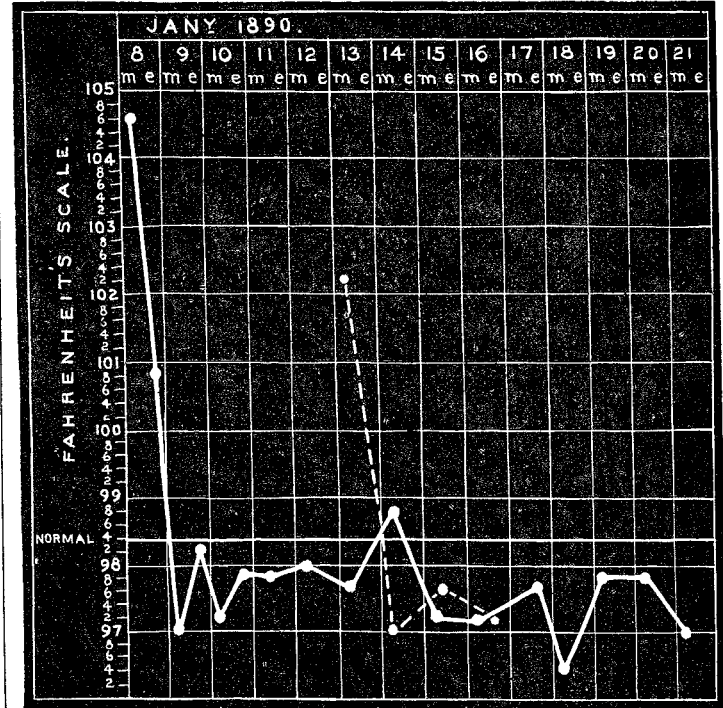
Harley-street, W.

ON THE
OCCURRENCE OF THE PNEUMOCOCCUS IN
THE SPUTUM FROM A CASE OF
INFLUENZA.
By JAMES W. FRASER, M.D., C.M., M.R.C.S.

THE expectoration of the case of influenza here described contained, on the third day of the illness, practically no other microbe than one answering in microscopical and cultivation characters to the pneumococcus of Friedländer. The case is therefore of interest in view of the accounts from Vienna of the discovery of this microbe in the expectoration of influenza cases by Dr. Jolles, and the opposing results obtained by Professor Weichselbaum.¹ Clinically the case was one of the respiratory or broncho-pneumonic variety of the epidemic.

Mrs. F—, aged sixty-one years, was seized on Jan. 6th with rigors, headache, and catching pain in the left side

above the breast. She had to walk a considerable distance on that day, and did it with much difficulty. On the 8th, when first seen, she was in bed, evidently very ill, with a temperature of 104.6°. The pain in the side was very severe, and increased by the cough. The expectoration was "prune juice" in character. This was the sputum, which was examined bacteriologically. The physical examination showed a little consolidation at the bases of the lungs posteriorly, but not reaching above the inferior angle of the scapula. Five grains of antipyrin were ordered every four hours, and a mixture of digitalis and carbonate of ammonia, with the result that, when seen again in the evening, the temperature had fallen to 100.8°, and next morning to 97°. The antipyrin was then stopped, five doses having been taken. The pain was gone, the cough loose, and the tongue cleaning; but for more than a fortnight the patient remained in a very weak state, requiring stimulants both medicinal and alcoholic. The temperature for the whole of this time, save on one occasion, was subnormal, and the pulse in the early part of the time was intermittent on exertion. The patient, however, finally made a perfect recovery. The diagnosis of this case lies between aborted pneumonia and influenza. On its own merits the case appears to belong to the latter category. The very sudden invasion, the equally sudden fall of temperature, and the long period of weakness with subnormal temperature, are all in favour of this; but further proof was afforded by the infection on Jan. 11th of the patient's husband, who had a much slighter attack, and of the gastro-intestinal form. His temperature is represented on the chart by the dotted line, that of Mrs. F— by the continuous line. Mr. F—'s



attack may be briefly recorded as follows: On the 11th, rigors, headache, and coryza; on the 12th he vomited bile, and had pain over the region of the liver, the eyes were yellow and bloodshot the tongue was dry and furred. There was very little cough or expectoration. In this case the fall of temperature was rapid, and by the fourth day of the attack it was subnormal, and in a day or two the patient was about well. It may therefore probably be considered as proved that Mrs F— suffered from a severe attack of influenza, with slight pneumonic consolidation. The cases, however, are simple and ordinary. It is to the bacteriological examination of the former of them that this note is intended to call attention. The specimen of sputum spread on the cover glass was stained by Friedländer's process after treatment with 1-per-cent acetic acid solution,² and examined after mounting in balsam. Micrococci were found single, in pairs, or in fours, and in some places the diplococci were arranged in chains. With the highest power with which they were examined ($\times 1500$ diameter), a capsule could not be with certainty detected, but the members of the diplococci were united by some kind of an envelope, and in places a faintly stained substance could be detected around single micrococci. There were some smaller micrococci to be detected which might perhaps be young forms. At any

²² Compare case of M.A.S., THE LANCET, vol. i., 1889, p. 1.
¹ THE LANCET, vol. i. 1890, pp. 211, 219, 262, 380.

² Hamilton: Text-book of Pathology, vol. i., p. 138.

rate, on cultivation the pneumococcus easily vanquished any competing organisms, and the cultures, examined microscopically, showed only one micrococcus single and in pairs, which appeared smaller than that in the sputum, but on measurement was found to be about the same size—viz., about $\frac{1}{32000}$ of an inch.³ No capsule could be detected in the cultivated pneumococci, agreeing thus with all observations on the subject.

The cultivations were made in peptonised gelatine from some of the same sputum as was stained. The first cultivation resulted in five days at the ordinary room temperature in the formation of a flattened cushion-shaped colony at the point of entrance of the inoculated needle, and a detached rod-shaped cultivation along the track of the needle. These were the head and stem of the nail-shaped culture of the pneumococcus, as was proved by making second cultures from the head and stem separately when both developed the typical nail shape. Plate cultures in gelatine gave circular slightly liquefying greyish colonies. Of course no inoculation experiments on animals could be attempted. The evidence from this one case, small as it is, is in favour of the results of Dr. Jolles. If it be objected that the microbe cultivated came from the mouth, in which the pneumococcus has been found in healthy persons,⁴ it may be replied that this seems to be disproved by the fact that no separating culture on plates was needed to obtain a pure cultivation of the germ. A sterilised needle coated with the sputum was plunged into the gelatine peptone in a tube, and a pure cultivation resulted, showing that the pneumococcus was at any rate in greatly preponderating quantity in the sputum, and could not therefore have been derived from the mouth. As to the question of the causal relation of this microbe to influenza, nothing can be said at present, and a single case does not throw much light on the question. There would, however, be nothing very remarkable in this, if it should be a fact. The pneumococcus of Friedländer has been discovered in ordinary coryza, and in ozæna,⁵ and a very similar microbe in the contagious coryza of horses;⁶ it has also been found in otitis media,⁷ and in epidemic cerebro-spinal meningitis.⁸ Influenza, in the popular opinion, is infectious coryza, though in the present epidemic the coryza is frequently absent. Many cases have had the middle ear inflamed, either during or after the attack, and nervous symptoms pointing to implication of the cerebro-spinal centres (fronto-occipital head, paresis of legs and arms) have been frequently reported. These, to say nothing of the pneumonic and peri- and endo-cardial complications, point to the cause of the disease being a germ capable of affecting widely separated and physiologically different tissues, and such a germ is the pneumococcus of Friedländer. The epidemic has spread, also, to animals,⁹ and it has been seen that the germ of coryza in horses is probably the same microbe. It will, therefore, be no very surprising thing if further research shows that influenza, as well as various other ills, are to be laid at the door of this widely distributed micrococcus.

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OBSERVATIONS ON THE TREATMENT OF THE INSANE.

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WE can still catch the echo of the clear and confident peal which ushered in the new medical year, and in our musings deem its note of hope more or less justified by the progress of the past. "Puer natus est nobis" is the cry of each particular "ology": that the offspring may fulfil its early promise—the wish of sympathetic onlookers. Ere the din of universal congratulation dies away, we may with seemliness inquire into the case of mental pathology. All is by no means still with this branch of medicine, for the air is full of the sounds of stirring, and rumours indicating a departure from an attitude still too expectant. Asylums,

at best, must remain in large measure mere "places of refuge," and a considerable portion of their inmates will interest the philanthropist rather than the medical man. But apart from these irreparably damaged ones, who can merely be tended until such time as it pleases Nature to remove them, what are the prospects of those not yet beyond hope of cure? what is "psychological medicine" doing, and what does it propose to do for these cases? In a broad survey of the inmates of an asylum we recognise the three classes of the depressed, the deluded, and the excited. It may in general be said (with reservation of an instance here and there as an exception) that treatment of these cases consists in the adoption of measures adapted to the prevention of mishap to the patient and his neighbours until a change occurs. As regards the asylum dispensary department, its rôle is the alleviation of passing bodily ailments. One class of drugs must, however, be excepted—the sedative, in speaking of which one appears at least to be standing on sure ground, to be grasping an instrument potent for good, the use of which is justified and directed by experience. The directions, nevertheless, are by no means explicit, and the value of the agent is uncertain. In large institutions a sedative is not infrequently given with the object of removing the discomfort of the recipient's neighbours. It is, in fact, the price of peace; and in ordering it an excellent general principle is subscribed to, the interests of the individual being engulfed in those of the community. It is not, of course, intended to decry the temperate and judicious use of sedatives, but merely to point out that, as regards the patient himself, the administration might well be more purposeful. We have to do, in fact, with cases in which the remedy is often worse than the disease; and there is occasion to observe, in course of treatment, the efficacy of natural means in securing satisfactory rest. As in ordinary life, so amongst the insane; insomnia is often best combated by exercise and food, and porter may well replace paraldehyde. Leaving restraint by drugs, we may, in passing, refer to mechanical restraint, the employment of which some would fain stamp as heretical. Heresies, however, are tenacious of life, and this particular one forms no exception to the rule, being lusty, and likely to thrive. Restraint, disavowed in public, is yet practised in private, though under a gentler denomination, and, perhaps, in more presentable guise. We stand at present in terror of a name; but alienist fashions, like others, change, and when the heterodoxy of to-day to-morrow becomes orthodoxy, doubtless the proscribed term will rise unchecked to our lips, and the covert usage find an honest place in our practice.

Although in asylums attention is directed in the main to the prevention of unfortunate mishaps, certain measures are also taken with the object of promoting a return to health. Amongst these are suitable work, when possible, and exercise, which at times must needs be enforced. Massage might with advantage be practised with greater frequency in certain cases—for instance, in the melancholic, with physical weakness and loss of flesh and appetite. Electricity is in use, but is worthy of more careful study, which would furnish us with further information as to its definite object and proper application. Baths also, shower and warm, are deserving of more attention than they receive; the continuous warm bath, as used at Bethlem Hospital, is often productive of gratifying results in cases of excitement and delusion. A very considerable item in the programme of treatment—the social—scarcely needs more than mention, the benefit resulting from entertainments of various kinds being well known. The system of convalescent homes would seem to be in need of development at many of our asylums, which would, like the hospitals, be grateful for benefactors in this direction.

Leaving now these well-known (though in many instances little practised) methods of treatment, reference may be made to hypnotism, which is in need of further trial amongst the insane, though it is true that the attempts hitherto made in this country have not resulted in encouraging success. In France, M. Auguste Voisin continues to have good results; he reports in a recent number of the *Revue de l'Hypnotisme* a case of pronounced melancholia with refusal of food, in which a cure was obtained after two *séances*, all treatment having failed. We seem to have here an ideal form of treatment, destined, it may be, like other ideals, never to be realised. Could we but cast a glamour over the patient, exorcise the merciless voices holding dominion over him, instil into him new beliefs, fresh hope, whilst thus under our spell—could we claim so great a conquest, our share of good fortune would exceed the common lot of humanity. The attempt

³ Slightly smaller than the size given by Klein, .001 mm. ($\frac{1}{32000}$ = .00077 mm.). Micro-organisms and Disease, third edition, p. 73.

⁴ Netter: Bulletin Médical, May, 1887.

⁵ Hajek: Berlin. Klin. Woch., Aug. 13th, 1888.

⁶ Poels: Fortschritte der Med., i., 1888.

⁷ Netter: Ann. de Méd. de l'Oreille, Oct. 1888.

⁸ Foa: Giorn. della R. Accad. de Med. de Torino, 1886.

⁹ A good report of a case in a horse is given in the English Mechanic, Jan. 24th, 1890.