

Essay on a series of six Cases  
observed and treated by me in  
my Dispensary Practice for the  
Sir Humphry Rolleston Prize



My series of six cases can all be grouped under one heading, namely - acute infectious diseases.

The reasons for my choosing this topic for my essay are several in number, the chief of which being as follows:-

Firstly, acute infectious diseases - varying from a mild acute coryza to a fulminating broncho-pneumonia - form the bulk of illnesses in the Dispensary class of patient, owing to their lowered resistance to infection as a result of poor housing conditions, overcrowding, lack of the proper food, and often a general lack of cleanliness.

As a result of this, acute infectious diseases formed the majority of the fifty-one cases which I was privileged to attend and treat in their homes in my Dispensary work.

Secondly, acute infectious diseases chiefly affect children - five of this series occurred in children - and as a result of this, children having less resistance than adults, they have a greater initial mortality and subsequent morbidity, which may incapacitate them later in life.

Thirdly, acute infectious diseases are particularly interesting in that the greater proportion of these cases are preventable by the application of suitable prophylactic measures.

These prophylactic measures will be

elaborated in connection with the individual cases of my series.

The conditions from which my patients suffered were as follows:-

- ① measles.
- ② whooping Cough followed by mumps.
- ③ Mild Pharyngitis - which is included as it, when first seen, resembled an early faucial diphtheria.
- ④ mild acute Influenza.
- ⑤ Chickenpox.
- ⑥ acute Lobar Pneumonia.

These cases will now be dealt with in that order, including a discussion on each, and the Essay will conclude with a brief summary.

Case I.

Wm. Hylko.

act. 2 yrs. 1 mth..

19, West Nicolson Street (W.P.).

First seen :- 11.15 a.m. on 9/7/40.

Complaint :- Patient's mother states that Wm. has been out of sorts, and off his food for 4 days - i.e. since 5/7/40. For the same length of time, he has had a "running nose". This morning a rash appeared on his forehead.

History :- up until 4 days ago, William had been very well. He then became cross and very irritable, and was disinclined for food or play. At the same time, his mother noticed that the secretions from his nose were profuse and watery, and that the whites of his eyes were reddened.

She thought this was just an ordinary cold, and kept him in the house, but as the days passed, the coryza became more marked, and she noticed that his eyelids were a little puffy, and that he disliked any light to be shone near his eyes.

On the 8<sup>th</sup>, he developed a slight cough, but this did not upset him as much as his coryza.

From the night of the 7<sup>th</sup>, his mother says he has been fevered; but, having no thermometer, she does not know what his temperature was.

On the morning of the 9<sup>th</sup>, when she wakened, his mother noticed a red, spotty

rash on his forehead, and within an hour it had spread to cover the whole of his face. He then sent to the Dispensary.

His mother also informed me that he had been very constipated - his bowels not having moved since the night of the 5<sup>th</sup> -, and that his urine was scanty in amount and highly coloured.

With regard to his previous history, his mother states that he has had Pneumonia three times.

He has 3 sisters and 1 brother, and all are well.

The house consisted of one smallish attic room, of moderate cleanliness.

Examination: - The child was lying in bed very still & listless. He was smaller than the average child for his age, and appeared rather thin. A most striking clinical feature was his slit-like palpebral fissures, which on further examination was found to be due chiefly to spasm of his orbicularis oculi muscles, and partly to palpebral oedema.

On closer examination, the whole of his face, including the circum-oral region; the region behind his ears; the chest, both back and front; and the upper arms were seen to be covered by a blotchy reddish-pink rash. Of these areas, the face was the most densely covered with the rash, which consisted of discrete macules of about 3 mms. in diameter on the average, and of maculo-papules. These latter appeared to be due to a

confluence of macules, were most numerous on the face, and several had crescentic edges.

The blotchy appearance already described was due to these maculo-papules - the intervening skin being normal. The red of the rash disappeared on pressure, and there were no petechiae to be seen.

The buccal mucosa was examined carefully with the aid of sunlight for minute, pin-point, bluish-white specks - particularly in the regions of the openings of the Parotid Ducts - but none were seen.

These specks, called Koplik's spots, are, when seen, pathognomonic of measles.

There were no dull-red blotches on the palate, and the tonsils were slightly congested.

The tongue was only slightly furred and was fairly dry. The tonsillar glands were a little enlarged, but were not tender.

The chest, on examination, showed nothing abnormal - in spite of the stated history of his having had pneumonia three times.

The abdomen, apart from a loaded pelvic colon, showed nothing abnormal.

On account of his quietness, which almost approached to drowsiness, I looked carefully for muscular twitchings and myoclonus - both characteristic of encephalitis - but found neither.

There was no discharge from his ears.

His temperature was 100°F., his pulse rate 128 per minute, and his respiratory rate 30 per minute.

Treatment:- as this was the first case of measles in that house, occurring in a child under 5 years of age, I notified the case.

I next enquired about the other children in the house, and found that they had all had measles, and so I told the mother to watch for symptoms and signs of catarrh in any of them, and if this occurred, to keep them off school and let me see them. none of them did develop it.

I then saw that the window was opened widely, and told the mother to keep the child in bed, to keep him warm, and to keep his skin clean by tepid sponging.

I then instructed her to give him as much water to drink as he would take, and for his diet, to give him small amounts of light foods of which milk was to be the chief article.

One teaspoonful of syrup of figs was next ordered, as the child had had this before and had taken it without trouble.

Finally, I prescribed the following, to act as a mild diuretic and diaphoretic, and to loosen any mucus from the gastric mucosa:-

℞ Potassium Citrate      grs. X  
Sodium Bicarbonate      grs. V  
Liq. ammon. acetatis    ½ fl. dr.  
Syr. Lemnris.            min. V  
aa. Dest.                ad 2 fl. drs.

mix and make a mixture.

Sig.: One desert-spoonful three times daily  
after meals. J. C.

Progress:- On account of William's extreme quietness, I returned at 1.45 p.m. on the 9<sup>th</sup>, and found his condition unchanged, except that his temperature was  $102.8^{\circ}\text{F}$ ., and his pulse rate 142/minute.

The rash now covered the whole of his arms, all his trunk, and was beginning to involve his thighs.

at 8.45 p.m. on 9/7/40, the rash then covered the whole of his body, being most marked on his face, where it also appeared to be of a deeper colour.

His bowels had just moved before I arrived, and the motion consisted of a moderate amount of hard scybalous masses.

His temperature was then  $103^{\circ}\text{F}$ ., pulse-rate 146/minute, and his respiratory rate 36/minute.

On the morning of the 10<sup>th</sup>, he looked slightly better, and his mother informed me that he had shown a better appetite.

His temperature was  $102.8^{\circ}\text{F}$ ., and his pulse rate was 140/minute, and so I reassured the mother, and told her that I thought Wm. was passed the worst. That night his condition was exactly the same, except that the rash was of a definitely deeper colour on his legs than it had been previously.

On the following morning, he was a different boy. He was smiling and playing

with some toys in bed.

The rash was very much faded, and was now a faint brownish-pink, and his temperature was  $98.8^{\circ}\text{F}$ , his pulse rate 88/minute, and his respiratory rate 28/minute. He was also sweating a little, and had been more so, earlier that morning his mother informed me. I re-examined his chest, and once more there was nothing abnormal to be found. I then told the mother to increase his diet gradually, and to give him one teaspoonful of Cod Liver Oil Emulsion twice daily.

I allowed him up on the 12<sup>th</sup>, and out for a short time on the 15<sup>th</sup>, and I discharged him on the 16<sup>th</sup>, his convalescence having been rapid and uneventful.

Discussion :- my diagnosis of this case was measles, and it was made from the consideration of the following facts :- ① the history of catarrhal symptoms for 4 days before the appearance of the rash; ② the typical blotchy erythema starting behind the ears and on the forehead; ③ the rapid spread of the rash to involve the whole body; and ④ the associated pyrexia.

measles is an acute infectious disease, the causal agent of which is generally accepted to be a filterable virus, although this has not so far been identified. As has already been mentioned the pathognomonic finding is Koplik's spots. These were not present in this case, and the reason for

this is that they begin to disappear with the appearance of the rash, having been present since the second day of catarrhal symptoms.

Their appearance at this time can be made use of in attempting to stop the spread of an epidemic, as they are present when the disease is in its most infective stage, and the isolation of a child with these spots will prevent many other children from being infected.

another method which is advocated by some authorities is called Meunier's sign. This is of great use in boarding schools, and consists of repeated weighings of the child. If the child is going to develop measles, there will be a progressive loss of weight from the fourth or fifth days after infection. If this is found, the child should be isolated at once - i.e. before he is infective.

Thus it will be seen that isolation of a patient or a suspect is the great prophylactic measure available, and this can be made more complete and successful by the utilisation of Meunier's sign, and the finding of Koplik's spots.

Recently, another method has become available in the prevention or attenuation of an attack of measles by the use of serum. Blood serum from convalescents, or from adult immunes, placental extracts, or parental whole blood can be used. So far, attempts to prepare measles immune sera from animals have failed.

For prevention of an attack, serum must be injected not later than the 5<sup>th</sup> day after

exposure, and for attenuation between the 6<sup>th</sup> & 9<sup>th</sup> days after exposure to infection. The doses recommended are as follows:-

Serum	Days after Exposure		
	1 - 5	6 - 9	Prevention
Convalescent	5 ccs.	2.5 ccs.	5 ccs.
adult Immune	10 ccs.	5 ccs.	10 ccs.

This sero-prophylaxis is of particular value if the exposed child <sup>is</sup> already ill or in poor health as complete protection can be given; but if the child is healthy, it is desirable that he should suffer from an attenuated attack, and thus gain a life-long immunity.

With placental extract, the doses are:- 2 ccs. for attenuation; and 4 ccs. for prevention; but this is liable to produce reactions. The dose of parental whole blood is 50 ccs. for attenuation.

Measles is apt to be followed by complications affecting one or more of the following four systems:- ① Respiratory; ② Alimentary; ③ Nervous; and ④ Special Senses. The complications are:- ① Laryngitis, Tracheitis, Broncho-pneumonia, and Empyema; ② Ulcerative Stomatitis, cancrum oris, gastro-enteritis, and enteritis; ③ Convulsions, delirium, meningismus, and encephalitis; and ④ Otitis media, conjunctivitis and photophobia, Keratitis, impetigo, furunculosis, and pemphigus. Fortunately this patient did not suffer from any of the serious complications, although at first his listless condition was suggestive of encephalitis.

Case II.

Marjorie Fergusson,                      wt 2½ grs.  
18, Arthur Street. (Ground - Left).

First seen :- 16/1/41.

Complaint :- Cough for 4 weeks, now much worse than previously. No sleep as a result of the cough last night, and very little sleep on the preceding one.

History :- Marjorie was just out of the Sick Children's Hospital 14 days ago, where she had been operated on for an umbilical hernia. Since she came home, she has been very restless, and her cough, which was hacking in character had become worse.

Two nights ago she had had very little sleep, due both to her restlessness and her cough. Last night, her mother states, she had no sleep at all, but tossed and turned in bed all night.

For the last four days, she has been off her food, and today she would not look at her breakfast. Her bowels are regular, and she has had no diarrhoea.

Her nose has never bled with her coughing. Her mother says the cough has never been of a whooping character.

Her mother also states that her urine has been scanty, and has burnt her on micturition.

The house consisted of one room, which was kept very clean and tidy.

Examination:- Marjorie was lying in bed, looking ill and very flushed. She was also rather irritable and did not want to be examined at first.

There was no rash on her body, but her skin was dry and hot, and her lips very dry and slightly cracked. Her tongue was furred and dry.

She coughed several times when I was there, and each time the cough was dry, painful, and hacking. She did not whoop.

There was no ulcer on the frenum of her tongue, nor was there any subconjunctival haemorrhage.

Her heart, lungs, and abdomen showed nothing abnormal on examination.

Her temperature was  $101.2^{\circ}\text{F}$ , her pulse rate 100/minute, and her respiratory rate 26/minute.

Treatment:- On account of her temperature, I ordered her to be kept warm in bed, to have the room well-ventilated, to give her as much water as she would drink, and to give her a light diet, consisting chiefly of milk and custards, until her temperature returned to normal; but, I pointed out, if she asked for anything in particular, she could have it.

I also advised that a tight abdominal binder be applied, to support her when she coughed, and to prevent a bursting of her recent operation scar.

Finally, I prescribed a mixture to ease her cough, and a sleeping powder as follows:-

① R<sub>x</sub>

Pot. Citrate                    grs. X  
Sod. Bicarbonate            grs. V  
Liq. Ammon. acetatis     $\frac{1}{2}$  fl. dr.  
Tinct. Belladonna.        min. V  
Syr. Lemonis.                min. V  
aq. Dest.                    ad 2 fl. drs..

mix and make a mixture. send 32 such doses.  
Sig. :- One dessertspoonful three times daily after meals.

② R<sub>x</sub>    acetyl salicylic acid grs. iii  
         Phenacetin                grs. ii  
         Codeine                    gr.  $\frac{1}{4}$ .

mix and make a powder. send 6 such.  
Sig. :- One powder to be taken in milk at night.

Progress:- 17/1/41:- Very much better this morning. She had slept 12 hrs. solidly with the powder, during which time she never coughed and was not restless. I told her mother, only to give her half a powder that night.

Her temperature was 98.4°F, her pulse-rate 82/minute, and her respiratory rate 24/minute.

On examining her throat, I precipitated a spasm of coughing which included one typical whoop. Her sputum was loose this morning, and her cough not so painful.

I told her mother to take her out on the following day, and to start giving her Cod Liver Oil and melt.

19/1/41:- Her condition was very satisfactory, her coughing being much less frequent. She has had no further whoops.

21/1/41:- Her progress was still maintained.

24/1/41:- When I examined her on this

morning, I found a swelling behind the angle of the mandible on the right side. This swelling had suddenly appeared on the previous night, was fairly soft and slightly tender, and was localised to the region of the Right Parotid gland - i.e. up to the tragus and down to  $\frac{1}{2}$ " below and behind the angle of the mandible. There was no swelling on the left side of the face, and no other new complaint. Her temperature was  $98^{\circ}\text{F}$ , her pulse-rate  $88/\text{minute}$ , and her respiratory rate  $24/\text{minute}$ . Her cough was still present, but did not hurt her nearly so much as previously.

On account of the whooping cough, I still advised the mother to take the child out into the fresh air. I also put her older sister, aged 8 years, into quarantine for 26 days, as she had not had mumps.

With regard to Marjorie's jaw, I told the mother to cover it with hot, dry, cotton-wool, and to keep it well wrapped up when outside. I told her also to wash the child's mouth out with baking soda in water (1 teaspoonful to the pint) three times daily.

25/1/41:- Marjorie felt fine this morning. The swelling was still tender and of the same size.

28/1/41:- This morning, the left Parotid gland was slightly enlarged, and she did not feel too well. Her tongue was moist, but her lips were dry. Her mother informed <sup>me</sup> that when she was sponging her, Marjorie would not let her touch her abdomen. On examination, there was slight guarding and tenderness in the Right Iliac Fossa. Her

temperature was  $99.8^{\circ}\text{F}$ ., her pulse - rate 100/minute, and her respiratory rate 26/minute. This made me very suspicious that Marjorie was going to develop an acute appendicitis, and I debated whether I should send her in to hospital. I decided against this, as there had been no vomiting, and on account of her infective condition, but told the mother, that should the pain become worse, or should the child vomit, she was to take her to hospital at once. Meantime, she was not to purge her, and to give her only milk as her diet.

29/1/41:- Her condition was unchanged this morning, except that her temperature was  $100.8^{\circ}\text{F}$ ., and her pulse - rate 106/minute.

30/1/41:- This morning, she felt and looked very much better. There were no symptoms or signs referable to the abdomen. Her bowels had moved normally that morning. The right Parotid gland was still the same size, but not so tender. The Left one was slightly larger. Her temperature was  $98.4^{\circ}\text{F}$ ., and her Pulse - rate 88/minute.

2/2/41:- Her condition was very satisfactory. The right parotid was much smaller, the left one showing no change.

4/2/41:- Right parotid shows no clinical enlargement now; the left one slightly smaller. She has no cough at present.

8/2/41:- On this morning, there was nothing abnormal to be found on examination, and so I discharged her.

Discussion :- This case was a most interesting, and at times, a rather worrying

one. The diagnosis was first of all whooping cough, followed by mumps, and later probably by an acute catarrhal inflammation of the appendix. It is probable that she had been infected by *Bacillus Pertussis* before she went into the Sick Children's Hospital, and it is quite within the limits of possibility that she was infected with the virus of mumps when she was in hospital.

Of these two infectious diseases, whooping cough is by far the more serious, being along with measles, the most serious disease of childhood. Hence, for whooping cough at any rate, prevention is of vital importance. The following

preventative measures are at present in use:-  
① Segregation of the infective individual. This, to be really effective, must be early - in the catarrhal stage, and this can be done by taking cough plates from any child with a severe cough. This is done by placing a plate with Bordet-Gengou medium 4" in front of the child's mouth, and exposing the plate to about 15 coughs. Other findings which are helpful in the early diagnosis, are:- Leucopenia with a relative lymphocytosis; and a normal Blood Sedimentation Rate.

② Exposed susceptible contacts should be kept under daily observation for 3 weeks, and isolated immediately catarrhal symptoms appear.

③ Disinfection of any articles soiled by the patient.

④ Vaccine prophylaxis has been advocated, but is of doubtful value.

⑤ The injection of 10ccs. of serum obtained from a patient or convalescent, to be given within 6 days of exposure to infection.

Whooping cough is a very serious disease, killing 3000 children in Great Britain each year, and it kills by way of its complications.

These are :- Broncho-pneumonia, convulsions, gastro-enteritis, cardiac dilatation, and otitis media. Of these, the most important and probably the most common is Broncho-pneumonia. Apart from these immediate complications, other sequelae are only too common. Emphysema may be the result of a severe attack; pulmonary fibrosis and bronchiectasis may follow broncho-pneumonia should the child recover; and an attack of whooping cough may light up a latent focus of tuberculosis.

The prophylaxis of mumps is a far less important problem than that of whooping cough, for it is exceptional for a case to end fatally, the symptoms are less severe and do not last so long, and the complications are not so serious (especially in a child).

The prophylactic measures in use are :-

- ① Isolation of the patient for one week after subsidence of all parotid swelling.
- ② Quarantine of susceptible contacts for 26 days.
- ③ Disinfection of crockery and utensils used by the patient.
- ④ Recently, seroprophylaxis has been tried, but its value is not proven as yet.

Case III.

Patricia Mc. Farlane      ~~at~~ 9 yrs..  
24, Middle Arthur Place. (Top).

First seen :- 4.30 p.m. on 24/1/41.

Complaint :- She complains of a sore throat of one day's duration, which gives her pain when she swallows. For the same length of time, she has had a slight frontal headache, and has felt slightly 'off-colour'.

History :- Before the 23<sup>rd</sup>, Patricia had felt perfectly well, and it was not till dinner-time on that day that she noticed her throat was sore, her attention being drawn to this fact when she ~~swallowed~~.

Slightly later that afternoon, she first complained of her frontal headache, which was not so painful, as it was annoying.

She feels quite able for her food, but has not been taking so much today, because of the soreness on swallowing. She has not vomited. Her bowels have not moved today.

She has not had antidiphtheria inoculations.

The house was in a filthy condition, and the mother was of low mentality.

Examination :- She was a thin, pale, and fairly tall girl, who did not look ill.

On making a general examination, nothing abnormal was found in the chest or

abdomen.

I then palpated her neck, and found both tonsillar glands enlarged, the left being more markedly so. Both were slightly tender, but were freely movable. Her other cervical lymph glands were also enlarged, but were spotty and not tender. Her temperature was  $98.8^{\circ}\text{F}$ ., her pulse-rate 92/minute, and her respiratory rate 24/minute.

Finally, I examined her mouth and throat, and found the tongue moist and dirty, and the oral pharynx congested.

But the thing which fixed my attention was a pale, dirty yellow patch towards the upper pole of the left tonsil about  $\frac{1}{2}$  cm. in diameter.

about half an hour later, I took a throat swab from underneath the edge of this patch of membrane, and sent the swab away for Bacteriological Examination. There was no bleeding when the bit of membrane was detached. There was no oedema of the fauces, uvula, or pharynx. Her breath did not have a foetid odour.

Treatment:- I told the mother to keep the other children away from the girl, and told her to gargle her throat with baking soda in water (1 teaspoonful to the pint). I also informed the mother that I would be back with the Bacteriological report at 10 a.m. next morning.

Progress:- Bacteriological report was negative both for *Bacillus Diphtheriae* and *Haemolytic Streptococci*, and so, on the following

morning, I reassured the mother, and told the girl to continue with the gargles, and I prescribed Boroglycerine to be used as a throat paint.

The child did not look ill. Her temperature was  $98^{\circ}\text{F}$ ., and her Pulse-rate 82/minute. I advised her to get out in the fresh air as much as possible, and to take Cod Liver Oil and malt, one teaspoonful twice daily.

Finally, I advised the mother to have the whole family immunised against Diphtheria.

27/1/41:- The girl felt fine, her throat was no longer sore, and the membrane on her left tonsil had disappeared, and so I discharged her.

Discussion:- This is a case of a mild pharyngitis with a membrane on the left tonsil, probably due to non-haemolytic streptococci. This case is included because of its likeness to an early insidious diphtheria from which it must be differentiated. The following are the points on which the differentiation can be made:-

- ① no real toxæmia was apparent.
- ② The pulse was not unduly fast.
- ③ The membrane did not bleed when removed.
- ④ There was no œdema of the pharynx.
- ⑤ There was no faecal odor of the breath.
- ⑥ There was adenitis, but no periacenitis.
- and ⑦ The bacteriological report was negative.

I advised the mother to have all the children immunised against diphtheria. This mother was, as has already been mentioned,

particularly stupid, for, only 4 yrs. ago, she lost a boy from diphtheria, and yet, will not take advantage of the free immunisation scheme without pressure.

Diphtheria can be prevented, and is, in Canada at the present day. Prophylaxis is carried out in one of the following ways:-

- ① using alum-precipitated toxoid (A.P.T.). three two injections are given of 0.1 cc. and 0.5 cc. with 4 weeks between the injections.
- ② Toxoid - antitoxin floccules (T.A.F.) in 3 injections, each of 1 cc., at intervals of 2-4 weeks.
- ③ Toxoid - antitoxin mixture (T.A.M.) in doses the same as T.A.F..
- ④ Formal - toxoid (F.T.) also in similar doses.

The first two of these are used regularly, A.P.T. for children, and T.A.F. for adolescents and adults.

All these are methods of active immunisation.

During epidemics, susceptible persons can be protected by passive immunisation with antitoxin. The immunity from this only lasts 3-4 weeks.

Finally, Diphtheria is a serious disease, the treatment of which cannot in some cases prevent paralysis or death occurring, but it can be prevented in 100% of cases, hence the importance of prophylaxis by active immunisation.

Case IV.

Mrs. Graham      Aet 30 yrs..

% me. Swan,

17 a., Nicolson Street (13<sup>th</sup> floor).

First seen :- 17/3/41.

Complaints :- Sore throat, headache, sore eyes, and vague pains and aches all over her body, which came on suddenly and without warning about 6 p.m. last night.

History :- Until 6 p.m. last night, she had been feeling perfectly well, and then she was troubled with the above complaints. She noticed that her throat was sore when at tea, and her other symptoms developed immediately after. She then went to bed and took 2 aspirins, but had a restless night, and therefore sent to the Dispensary in the morning. She told me that she did not feel able for her breakfast this morning. She has had no diarrhoea.

Her previous health has been good.

The house consisted of one room and was moderately clean.

Examination :- On physical examination, no abnormal finding could be made out, except that her oral pharynx was slightly congested. Her temperature was 97.4°F, and her pulse-rate 76/minute. She did not look ill, but was rather restless.

Treatment :- I told the patient to stay in bed, and to keep herself warm with hot water bottles and an extra blanket if necessary. I also advised her to eat as much as she felt able to, and to take foods which were light and easily digested. I prescribed Dover's Powders gr. V, and told her to take two of these tablets along with one aspirin as soon as she got the tablets, and to repeat this at night.

Finally, I advised her to gargle three times daily with baking soda in water (one teaspoonful to the pint).

Progress :- 18/3/41 :- The patient was still in much (in) the same state as on the day before, but had slept better at night.

20/3/41 :- Her pains and aches were now gone, as was her headache and sore eyes. Her throat was still slightly sore. I told her

to get up for a short time that afternoon, and for longer on the following afternoon.

22/3/41 :- This morning she felt very tired and "washed-out". She had no other complaints. I told her to return to her bed, and prescribed the following :-

R<sub>x</sub>

Syr. Ferri. Phosph. i. stryck. et. quinine 1 fl. dr.  
Send 16 such doses.

Sig. :- One teaspoonful three times daily before meals. <sup>f. b.</sup> <sub>q. d.</sub>

23/3/41 :- She felt much better on this morning, and I therefore allowed her up again.

25/3/41 :- Her improvement had continued and she had no complaints, and so I discharged her.

Discussion:- my diagnosis of this case was influenza of the general febrile type. It was made from the widespread symptoms, and the lack of physical findings. This latter is typical of influenza. This diagnosis could have been strengthened if a white blood count had been done, when a leucopenia would almost certainly have been found.

Influenza is a virus infection, which is extremely infectious. Cases occur sporadically, in epidemics, and in pandemics. The last pandemic occurred just after the last war 1914-1918, and during it more people died from influenza and its complications, than were killed in the war. Hence prophylaxis is of the utmost importance, and will be discussed later.

after an incubation period of 1-4 days, influenza assumes one of four forms:-

- ① general febrile type - of which this was a mild case. In severe cases of this type, there often is a temperature up to  $105^{\circ}\text{F}$ , & there is marked prostration.
- ② Respiratory type which may proceed to an influenzal broncho-pneumonia.
- ③ nervous type which simulates meningitis very closely.
- ④ gastro-intestinal type resembling a gastro-enteritis.

Even the mildest of any of these types is apt to be followed by depression and debility during convalescence, and this case showed it for a few days.

Influenza kills by means of its complications. The chief and most deadly of these are: broncho-pneumonia, and myocarditis. Other complications are otitis media, peripheral neuritis, bronchiectasis, asthma, and pulmonary tuberculosis.

as has already been mentioned, prophylaxis is of the utmost importance. But complete prophylaxis is not easy to secure as the condition is highly infective, and there is no natural immunity to it.

attempts to prevent outbreaks occurring are made by increasing the resistance of the population by good food, fresh air, sufficient exercise and rest; and by proper ventilation in the homes. Vaccines - both of living virus and mixed bacterial - but are of doubtful value.

The prevention of the spread of an outbreak is attempted by rigid isolation of patients, and disinfection of their fomites; for others to avoid infection, the best method is to avoid all crowds, especially in cinemas, and to perform nasal insufflation daily with 2% zinc sulphate or 1 in 5,000 Potassium Permanganate in saline.

Case V.

Janet Sims      Aet 13 mths.  
10, Nicolson St. (3<sup>rd</sup> Left).

First seen :- 10/2/41.

Complaint :- Baby has been "generally off-colour and irritable" since last night, according to her mother. Her irritability was coincident with the appearance of a rash, which was first noticed on the front of her chest.

History :- Baby was just as lively as usual and very happy until last night. Then, she refused to take her last feed and became very irritable.

The mother states that the baby felt warmer than normal, and she therefore sponged her down with tepid water.

When doing this she discovered the rash on the front of baby's chest, which had not been present that morning.

During the night, baby did not sleep well, but was very restless and constantly tossing and turning in her cot.

In the morning, the mother sent to the Dispensary as the rash had increased overnight.      Breast-fed or artificially?

The house consisted of one room, and was kept reasonably clean.

The mother was of average intelligence, and followed my instructions fairly fully.

Examination:- Baby was rather pale, with flushed malar regions, and did not look very ill.

She was considerably smaller than the average child of her age. The anterior fontanelle admitted the tip of my little finger.

On general examination, I found that baby had a spina bifida, the lower dorsal and upper lumbar vertebrae. It was probably of the meningo-myelocoele type.

Baby could not stand or walk, and had no sphincteric control.

On examining her skin, spots were seen scattered fairly diffusely over her trunk and forehead, and less diffusely over her limbs.

These spots, which were red in colour, consisted of macules, papules, and vesicles. No pustules were seen.

The papules were not hard, shotty, or indurated, and there was no marked surrounding inflammation.

Her tongue was dry, but not furred.

Her temperature was  $100.8^{\circ}\text{F}$ ., her pulse-rate 100 / minute, and her respiratory rate 28 / minute.

There was nothing abnormal to be found on examination of her chest or abdomen.

Treatment:- I advised the mother to keep baby warm in her cot, and to continue with her tepid sponging. I also told her to give her a light diet, plenty of water to drink, and to keep her bowels open with a Grey Powder.

I then advised the mother to keep gloves on baby's hands to prevent her scratching, and not to let other children near her.

Finally, I prescribed a sleeping powder as follows:- Rx

acetyl salicylic acid grs. ii

Phenacetin grs. ii

Codeine gr.  $\frac{1}{8}$

Mix and make a powder. Send 6 such.

sig. :- One to be taken in milk at night. f. 6

Progress :- 11/2/41 :- Baby was very much better this morning. Her tongue was a little moist. The rash was the same as on the previous day, except that there were some pustules on the trunk. She had slept for 9 hrs. with the sleeping powder.

Her temperature was  $97.6^{\circ}\text{F}$ , her pulse-rate 92/minute, and her respiratory rate 26/minute.

13/2/41 :- Baby was feeling and looking fine. The macules of the rash were not so bright red as previously, and several crusts were to be seen.

15/2/41 :- This day, baby again was fine and the rash hardly visible, and so I discharged her.

Discussion :- The diagnosis in this case was easy, but it was imperative that it was differentiated from Smallpox (*variola*). The diagnosis was Chickenpox (*varicella*), and it was differentiated by the following points :-

① There was no prodromal illness.

② The rash was of centrifetal distribution

i.e. it affected chiefly the trunk, while smallpox is centrifugal, almost avoiding the trunk completely.

③ Lesions were seen at different stages (macules, papules, and vesicles) at the same time, whereas in smallpox the rash is all at the same stage of development.

④ The lesions were superficial - not deep, pitted, and indurated as in smallpox.

⑤ The whole disease was over rapidly, and was comparatively trivial.

The prophylaxis of Chickenpox is comparatively unimportant as it usually is a mild disease, and consists of isolation of the patient, and quarantine of susceptible contacts; but the prophylaxis of smallpox is of major importance because of the seriousness and great infectivity of the disease. The condition can be wiped out completely by prophylactic measures - like diphtheria - and yet advantage of these measures is not being taken by the great majority of the population at the present day.

The prophylactic measure is vaccination.

This, in my opinion, should be made compulsory, and should be done when the baby is about 5 months old. This will give perfect protection from the eighth day after vaccination for 2 years, and almost perfect for 7 years. The child should then be vaccinated when she goes to school, and this will probably give her a life-long immunity, although it would be safer if she were again vaccinated should an

outbreak of smallpox occur.

Chickenpox, which like smallpox, is a virus infection, is usually an extremely benign condition. But occasionally complications do arise. The common ones are :- erysipelas from scratching the pox and the scratch marks becoming infected with streptococci - hence the reason I made the child wear gloves; bronchitis and bronchopneumonia; and otitis media.

Occasionally, a very interesting complication occurs - not in the patient, but in an adult attendant - namely, herpes zoster. This occurrence probably proves that herpes zoster is due to the same virus as chickenpox, but affecting the nervous system instead of the skin.

Case VI.

Baby Bernard Rogers      aet. 9 mths..  
19, Marshall Street. (2<sup>nd</sup> floor).

First seen :- 3 p.m. on 29/1/40.

Complaint :- Restlessness and sleeplessness for four days. Last night he became very ill and according to his mother, he was gasping for breath.

History :- until last Thursday, baby had been very happy and contented. His mother informed me that he had been a very good baby and given her no trouble at all. Has he been fed?

Since then, he has been irritable, and out of sorts. This has been most marked at night, when he has tossed and turned in bed and has had very little sleep, particularly last night.

On this occasion he was gasping for breath and looked very ill, and his father and mother spent the night carrying him about the room, trying to nurse him to sleep - but with no avail.

His mother had thought his symptoms were due to teething and a cold at first, and so did not send to the Dispensary until Monday when she realised that there was something more seriously wrong with baby.

The house consisted of one room which was kept very clean.

The mother was highly intelligent and followed all instructions accurately and fully.

Examination:- Baby was being held up in his mother's arms, and looked very exhausted and ill. He appeared to be having great difficulty with his breathing, and was slightly cyanosed. His alae nasi were moving with each respiration.

He was fairly well nourished, and appeared to be of average size for his age. His fontanelles admitted the tips of one and a half fingers.

When I approached baby to make a closer examination, he started to cry and continued to do so all the time I was there on that occasion.

His tongue was dry and furred and his breath had a foetid odour - though this was not marked.

On examination of his chest, his respiratory rate was very much increased, about 65/minute, and it could be seen fairly easily that the right side of his chest was moving very much less than the left. This was confirmed on palpation, which also made out that there was a very marked increase in vocal fremitus over the right base.

The apex beat was found in the fourth left intercostal space in the mid-

clavicular line.

On percussion, marked dullness was found at the Right base, and the areas of cardiac dullness were approximately normal.

On auscultation, it was very difficult to hear the breath sounds because of the constant crying of the baby, but they were probably high-pitched bronchial. There were no crepitations or rhonchi heard, but the vocal resonance was markedly increased over the Right base.

The heart sounds appeared to be normal but were extremely rapid, approximately 160 beats / minute.

His temperature was  $102.8^{\circ}\text{F}$ .

There was nothing else abnormal to be found.

Treatment :- as I made the diagnosis of this case, acute Lobar Pneumonia affecting the Right lower lobe, and considering the age of the baby, I suggested sending him in to hospital. The mother pleaded with me not to do so, and as I did not want to take all the responsibility for treating him at home, I got Dr. Sclater over to see baby. He confirmed my diagnosis, and suggested that I should start treating baby, but if his condition should deteriorate by that night, to send him in to hospital.

I then told the mother to keep the baby warm in bed, to give him plenty of water to drink, and to make his diet

consist of milk and sugar only.

I also advised sponging the baby regularly with tepid water.

Finally, I prescribed :-

R<sub>x</sub>

Sulphapyridine grs.  $7\frac{1}{2}$

Send 6 such.

Sig. :- One to be taken four hourly in milk.

and R<sub>x</sub>

Dover's Powders grs.  $\bar{V}$

Send 6 such.

Sig. :- One to be taken as directed.

One of each of these was taken about 4.15 p.m.

Progress :- 6.30 p.m. on 29/1/40:- at this time baby had just fallen asleep, and hence I did not disturb him.

He had vomited after receiving the sulphapyridine, but his mother could not see any of the tablet in the vomit.

9.30 p.m. on 29/1/40:- He was still asleep, and looked much better than at 4 p.m.

He awakened when I was in, and so I took his temperature and found it to be 101°F., his pulse - rate 120/minute, and his respiratory - rate 60/minute. He was sweating slightly and his tongue was a little moist at the edges. He also was taking a little interest in his surroundings.

He was then given another sulphapyridine tablet and did not vomit thereafter.

8.15 a.m. on 30/1/40:- Baby was rather

Family  
history  
disagree  
for a baby  
of 9 months

restless and was crying a good deal.

His parents had had a terrible night with him. At midnight they had given him another sulphapyridine tablet and one Dover's powders, and he had a restless sleep until 3.30 a.m. He then was given another sulphapyridine tablet and did not vomit, but yelled continually throughout the night and nothing would quieten him. He was also, during this time, exceedingly restless, and seemed possessed of colossal strength, tiring both of his parents out.

His alae nasi were still moving, and his face was much paler than last night. He looked tired and very ill.

His temperature was  $99.6^{\circ}\text{F}$ ., his pulse-rate 180/minute, and his respiratory rate 60/minute.

I then gave him another sulphapyridine tablet and one Dover's Powder, and watched his mother giving him a bottle full of warmed water and half a bottle of warm sugared milk.

12 noon on 30/1/40:- Baby had slept since last visit and just wakened before I came in. He looked considerably better and coughed with comparative ease.

His temperature was  $99.1^{\circ}\text{F}$ ., his pulse-rate 144/minute, and his respiratory rate 40/minute. He was then given half a bottle of water, and half a bottle of sugared milk, and another sulphapyridine tablet.

2 p.m. on 30/1/40:- Baby was asleep - and had been so since last visit - and therefore I did not disturb him. His

respiratory rate was 35 / minute.

5.15 p.m. on 30/1/40:- Baby had just wakened up, but was very restful. He had slept from 12 till 4 p.m., when he received a bottle full of warm sugared milk. He had then slept peacefully for an hour.

His alae nasi were still moving with his respirations, but his breathing was very much quieter. He did not resent having the thermometer put in his axilla this time.

He was still sweating a little, and his cheeks were rosier - his face having lost its previous pall, and almost waxy appearance.

His temperature was  $98^{\circ}$  F., his pulse-rate 130 / minute, and his respiratory rate 35 / minute.

I then told his parents not to give him any more sulphapyridine, and to give him both water and milk and sugar when he became thoroughly awake.

10 p.m. on 30/1/40:- Baby was awake and quiet, having slept for fully 3 hours since my last visit. His colour was better, and his lips and tongue were very moist. He was not sweating. His alae nasi were not moving with respirations.

His temperature was  $98^{\circ}$  F., his pulse-rate 120 / minute, and his respiratory rate 30 / minute. While I was there he was given a bottle of warm sugared water and fell asleep when he had drunk half of it.

I told the mother to give him one Dovers Powder if he required it during

the night.

8.20 a.m. on 31/1/40:- Baby was awake and looked quite well. He had slept peacefully from the time of my last visit until 4 a.m., when he was given some warm sugared water, after which he fell asleep until 6.45 a.m.. He did not require the Dover's Powder. He coughed several times when I was there.

I told his mother to give him a teaspoonful of syrup of Figs, as his bowels had not moved since Sunday; and to give him Cod Liver Oil Emulsion, and a little strained soup.

2 p.m. on 31/1/40:- Baby had just fallen asleep and was breathing peacefully, & hence was not disturbed.

5.30 p.m. on 31/1/40:- was awake and bright, and was taking a real interest in his surroundings. He actually smiled at me. His tongue was moist though a little furred. His mother informed me that he occasionally has spasms of coughing, and that his bowels had not moved yet.

8.30 a.m. on 1/2/40:- He was awake and looked well, though he had had rather a restless night, requiring a Dover's Powder at midnight to make him sleep. His tongue was moist and clean.

His cough was still present, and so I prescribed

Rx Pot. Cit. grs.  $\bar{X}$   
Soda Bic. grs.  $\bar{V}$   
Liq. ammon. acetatis  $\frac{1}{2}$  fl. dr.  
Syr. Lemonis min.  $\bar{V}$   
aa. Dest. ad 2 fl. drs.

mix and make a mixture.

Sig. :- One dessertspoonful thrice daily after feeds. J. G.

I told his mother to gradually increase his diet to his normal.

3 p.m. on 1/2/40:- Baby was quiet and happy. His bowels had moved just after my last visit, and his mother described it as a 'normal' motion for him.

8.30 a.m. on 2/2/40:- Baby was awake and smiling, having slept peacefully all night. His cough was considerably looser now. He was much more eager for his feeds.

5 p.m. on 2/2/40:- His progress was maintained in every way.

3/2/40:- Baby was awake and very well, having slept the whole night.

The area of consolidation was almost gone, although there was still slight dullness on percussion.

4/2/40:- Baby was very well. His cough was no longer present. He had a slight erythema on his upper lip due to irritation from his nasal secretions. For this, I told his mother to stop giving him the mixture and to apply vaseline to the lip.

5/2/40:- Lip improved this morning. Baby fine otherwise. His diet was now back to what it was before he took ill.

6/2/40:- Baby's progress maintained. Lip now better.

8/2/40:- Very satisfactory.

10/2/40:- Baby still improving, and eating

almost reversibly.

13/2/40:- Progress continuing.

17/2/40:- His mother states that he is back to his normal. There was nothing abnormal in his chest, and so I discharged him.

Discussion:- This case was the one I found most interesting and most exacting of all the cases I have treated in my Dispensary Practice. Apart from the condition of the child, interest was also maintained by the intelligence and efficiency of the mother - which I found to be a fairly rare phenomenon in Dispensary work. Any suggestion that was made was followed out carefully, and her reports of the baby's condition between my visits were full and accurate. The house was also kept clean and tidy, and was a joy to enter, especially after visiting other cases in which dirt was only too prominent.

Of the many interesting points in the treatment of this case, probably the most interesting - and certainly the most spectacular - was the response of the baby to Sulphapyridine therapy. With this treatment, his temperature was reduced from  $102.8^{\circ}\text{F}$ . to  $98^{\circ}\text{F}$ . within 24 hours, and his general, toxic, and irritable condition, had been changed to one of quiet and restfulness. It was indeed very fortunate, that apart from one vomit, he did not develop any of the toxic effects of sulphapyridine.

The prophylaxis of Lobar Pneumonia is also of importance, as it is a deadly disease in children under one year of age; but, unfortunately, there is no specific prophylactic measure, as there is for Diphtheria and Variola, and even one attack of pneumonia often does not confer immunity.

The reason for this is probably that the subsequent infection is due to a different type of pneumococcus, of which there are thirty-two known types.

No attempt was made in this case to isolate the type of pneumococcus responsible, because of the excellent response to sulphapyridine. If the latter had failed, antisera therapy might have been employed - but this would have had to be done in hospital, owing to the extreme cost of the treatment (£5 - £10).

Moreover, antisera are only known to be effective against six of the thirty-two types, namely 1, 2, 4, 5, 7 and 8; and the effects of antisera diminish rapidly with delay in use, and it is stated that they are of no real value unless given before the fifth day of the illness.

This was a case of Lobar Pneumonia, and as such has a definitely better prognosis from the start than a Broncho-Pneumonia. The remote prognosis is also entirely different, as there is comparatively little danger of the child subsequently developing pulmonary fibrosis or bronchiectasis, which are only too common following Broncho-pneumonia.

## Summary.

a series of six cases of acute infectious diseases observed and treated by me in my Dispensary Practice has been presented, in which the prophylaxis has been stressed.

I have attempted to stress the point that a considerable number of acute infectious diseases can be prevented in 100% of cases by employing prophylactic measures, and that the incidence of others can be greatly reduced.

The prophylactic measures can be grouped under three headings, namely :-

① Improvement of general hygiene.

② Raising of the general Resistance of the nation.

③ Specific Therapy e.g. vaccination. > antidipttheritic inoculation

— and as a result of the application of these measures, I hope to see a great reduction in the number of cases of infectious diseases in the next few years.