Chill as a Cause and Symptom of Disease.

by

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A distinguished physician is recently recorded as having stated that three fourths of the diseases in this Country have their origin in colds.

If this be true, or be within measurable distance of the truth, it may be freely asserted that colds or chills as such, have received too little attention at the hands of the profession. Indeed it is open to question whether many so called local, and even general diseases, should not rather be regarded as mere accompaniments, or sequelae of Chill, and the chill itself looked on as the prime malady to be attended to.

Looking at the matter from this point of view, I propose to deal very shortly with the causes, pathology, Symptoms, accompaniments, sequelae and treatment of Chill.

Causes. These are very numerous and varied. Whatever depresses the system, or lowers the general Vitality, may be taken as the main predisposing causes. Mental anxiety, worry, or depression with their numerous causes, overwork of mind or body, insufficient nourishment, habits of intemperance hereditary, or other constitutional debility, may

be grouped under this heading.

For exciting causes we have firstly, and mainly, certain atmospheric conditions. The chief of these is sudden lowering of temperature, but perhaps of scarcely less importance is excessive humidity. The inhalation of cold air acts directly by means of the respiratory tract, and the exposure of the general surface of the body acts through the skin. Excessive atmospheric humidity has a less direct effect - by preventing, namely, the proper evaporation of the watery elements of the cutaneous secretion, and causing these to condense on the surface, in the form of visible perspiration, and probably also by causing a vicarious excess of secretion from the mucous surfaces of the air passages. But even a cold dry east wind, independently of any excess of humidity, is a frequent cause of chill.

Pathology. The primary effect of these atmospheric conditions, on the general surface of the body is contraction of the capillary blood vessels of the cutaneous system. It is understood of course, that this is accomplished through the agency of the vaso motor nerves. As a complement to the contraction of the surface capillaries, there is dilatation of the capillaries of the

more internal parts. These are mainly the lungs, intestinal canal, liver, kidneys, urinary bladder, brain, and spinal cord, and probably also the heart. This outward contraction, and internal dilatation, may be of either short or long duration, and so constitutes acute and chronic forms of the disorder.

In the internal organs, the capillary dilatation may result either in increase or diminution of the natural secretion of the parts. In the lungs, the secretion is usually at first decreased, and subsequently increased. The bowels may be either constipated or loose, the urine may be either deficient or in excess, and the secretion of bile may also be affected in either direction. Later on, more or less permanent organic changes may take place in the tissues of the various organs.

Symptoms. The onset may be either rapid or insidious. When rapid there is well-marked shivering or rigor, paleness and coldness of the surface of the body, severe headache, pains in the back and limbs, a feeling of oppression over the chest especially at the upper part. As to the pulse. When the physician is first called to the case he seldom or never

finds it anything else than rapid, and usually also full and bounding. But it may be surmised that there is a short preliminary stage of heart depression, with slowness & feebleness of pulse, & other symptoms which really belong more to the Complementary capillary dilatation of internal organs, but are often so rapid in their onset as to overlap in point of time those just named, are Vomiting, purging, epistaxis, hæmatemesis, hæmoptosis, hæmaturia, and even perhaps cerebral hæmorrhage. Some of these symptoms however, notably vomiting and purging, may be due less to actual congestion of the intestinal canal, than to derangement of the sympathetic nerves, resulting in increased secretion. If we have been right in supposing that there is a preliminary stage of cardiac depression, there is probably also along with this, a lowering of the bodily temperature, but as before the physician has seldom an opportunity of witnessing this fleeting condition, and finds instead, a state of fever, with a considerable rise of temperature. The above symptoms may gradually become mingled with, and be superceded by, those dependant on the resulting

affections of local organs, but in the most favour-
-able cases they quickly disappear, and the
patient returns to his normal condition. The
distinctive feature of the recovery, almost invariably
being, a profuse perspiration of several hours
duration. This perspiration has the effect of
restoring the balance of the circulation. The
capillaries of the skin are for the time greatly
overdilated, and contain much more than
their normal amount of blood. In this way
they drain as it were the blood from any organ
which has been involved in the internal
engorgement, and in a comparatively short
time the equilibrium of the circulation
is restored.

But this return to equilibrium is in many
cases incomplete, or if complete for the time,
the patient is apt too soon to expose himself
and his weakened tissues, to the same cause
which induced the chill. In this way the
organs, which had only partially recovered
from their congested condition, are again attacked,
in a more insidious, and on that account
more dangerous manner than before.

Such are the acute, and easily diagnosed

manifestations of chill. But so far as my own observation and experience go, the more numerous and dangerous class of cases are chronic from the outset. The usual course is that, to begin with, the patient has had a slight chill to which no attention has been paid. This may repeat itself again and again for a month or two. The man feels out of sorts, he perspires on the slightest exertion, his appetite is impaired, his bowels are costive, his work is a burden to him. He rises unrefreshed by his night's sleep, if indeed he has enjoyed anything worth calling sleep. Added to these symptoms there usually is distinct loss of weight. Ultimately the doctor is called in, and he finds that the repeated chills have resulted in serious local disease in one or another part of the body.

Coming now to the local effects of the chill or to the production of so-called definite diseases we find them manifested under almost every one of the Registrar General's primary groups of classification. Following his order we would deal first with Epidemic forms of disease,

next with constitutional, and next with local, beginning with the nervous system, and going on to the circulatory, respiratory, digestive, urinary, and other systems. But from a clinical point of view, it will be better to deal first with those manifestations which most commonly obtrude themselves on the notice of the physician, and at least in this country there can be no question that the affections of the respiratory tract, dwarf all the others into comparative insignificance.

Respiratory affections. In acute cases of chill as above described, and where as happens in the majority of cases, the respiratory tract becomes involved, only the upper parts of the tract, inclusive of the large Bronchi, as far as we know, become affected. There is nasal and laryngeal catarrh, and hyperaemia of the Bronchial tubes, followed by the usual mucous or muco purulent secretion, but with proper treatment the disease should not extend beyond the larger bronchi, though if neglected it is apt to run on even into the smallest of the air tubes. This class of cases is so well known that further reference to it is needless.

In the more chronic forms of the disease, when the doctor is called in, only after repeated chills, and after the symptoms of general debility as above described have become established, he usually finds patches of minute crepitation in some part or other of the lungs. Oftenest it is located in the neighbourhood of the scapula. It may be found at one or other apex, and when there it usually gives rise to very bad headache and may even produce insanity. When the affected part is immediately behind the scapula, very careful examination is necessary to discover the crepitation. Indeed it cannot be too strongly insisted on, that in all these cases of chronic chill, the most minute stethoscopic examination is necessary, and I have reason to believe, that a very slight defect in hearing will entirely prevent many a physician from correctly diagnosing the disease. In a disputed case, in which as I believed the disease existed, while a medical friend in consultation could find no evidence of it, I discovered that a watch whose tick I could hear at 9 yards distant, was only audible to him two or three yards away

I do not of course say, that defective hearing has always this effect. Lengthened experience, and scrupulous attention, appear to be often sufficient to atone fully for the gradual impairment of the hearing power that frequently accompanies advancing years. The rales then are not quite so clear and distinct as those in a case of pneumonia, unless very near the surface of the lung, where the consolidated lung carries the sound right into the ear, but the disease sometimes passes into pneumonia, usually of a more or less chronic type, though now & then acute, and then of course the physical diagnosis is usually easy enough.

There are some symptoms which should guide one to look to the chest, in cases of chronic chill. One of the principal of these, is a feeling of oppression, fullness, or weight over the lower part of the sternum, sometimes extending right round the chest, & occasionally so severe as to remind one distantly of an attack of angina. This fullness is always spoken of as belonging to the stomach. The patient sometimes complains of dullness between the shoulders, and even goes so far in his localization of the disease, as to speak of a

heaviness, coldness, or want of freedom, in the part of the lung, which the stethoscope discovers to be affected. A stitch-like pain may be com-
-plained of if the affected part of the lung is con-
-tiguous to the pleura. A short quick cough is nearly always noticeable at one or another time, and is very characteristic of the disease. In many cases it does not come on, until after the patient has been a week or more in bed. Little dependence can be put on a statement by the patient that he has no cough, as he usually understands a cough only in its severe form, and may be surprised when sitting up in bed to undergo examination, to have his attention called to a short cough, which he had never himself observed.

We have already spoken about the rales. We may have them of crepitant, or subcrepitant kinds, but in by far the majority of cases they are minute crepitant.

The pectoriloquy should always be tested. This is best done by asking the patient to say slowly ninety-nine, or one hundred & ninety-nine. Increased pectoriloquy may be detected in parts where percussion has failed to elicit anything abnormal

Thickening of the walls of the small tubes may be the whole cause of this.

At first as in other parts of the respiratory system there is little or no secretion, but the time comes, if the patient has been kept in bed till he is nearly well, when it is increased. It may be of such an amount as to give rise to expectoration of little dark greyish or slightly greenish nodules, or it may be so little as to be swallowed unconsciously. The amount of secretion varies with the treatment. After poultices, purging, or induced sweating it is diminished. When the disease attacks the large bronchial tubes, the mucous expectoration is often abundant, but here also it depends partly on the treatment.

In chronic cases rise of temperature often takes place only in the evening, so that the doctor trusting to his daily visit, may fail to observe it, in this way it may continue unnoticed for weeks.

This disease is so often associated with pneumonia, that a few remarks on the latter are necessary before leaving respiratory affections. The commonest form is the acute or "Lobar pneumonia". From Reynolds System

of Medicine' I take the following:- "In a few cases again the invasion may be insidious and gradual, attended by cough, & by increasing weakness, but the symptoms may be of such slight comparative severity, that patients so affected may continue during some weeks, although with difficulty, their usual occupations. Cases of this class which bear a strong resemblance to the variety described as "latent pneumonia" tend to pass into chronic forms of the disease, and though occasionally occurring without the complication of tubercles they have appeared to me in most instances to be more or less closely associated with this diathesis" x x x "This form of pneumonia is however common during epidemics of Influenza, but it may occur without the direct effect of this specific poison" x x x x "it is also very common in tuberculosis of which it forms a most dangerous complication and markedly hastens the fatal issue."

In such cases there is of course consolidation which can be recognised by percussion, but it is not usually so distinct as in ordinary lobar pneumonia, & the fever may last some

weeks. Twice over I have been in consultation in cases of this sort where the disease was diagnosed as Enteric fever. In one of the cases a third physician was called in con-sultation and he had no hesitation in saying that it was pneumonia of the right base. In the other a whole family was considered by the Consultant (who is a good physician) to be suffering from enteric fever. The father had pneumonia, with very bad headache, and lay for a fortnight. The headache and one light coloured stool, after a dose of medicine were the only symptoms which the consultant considered as pointing to enteric fever. An "Ordinary Cold" had gone through the whole family and the father while suffering from it, had to walk a distance of six miles. About the end of his journey he took a chill, and had to be taken home in a cart. Needless to say the consultant's opinion was acted on. But the remarkably quick recovery of all the cases, the children being convalescent within two or three days, and the father able to take a long walk within 3 weeks, showed that enteric fever had not been the disease.

Rusty Sputum is rare. Gangrene I have seen take place once in the lungs in this condition, but had no doubt about it being due to in-temperance.

In the "Lancet" of 1884, Vol 2, there was given an abstract of some remarks by Sir Andrew Clark on a case of relapsing or intermittent pneumonia occurring in an aged man. "The patient had passed through as many as nine or ten severe rigors, with six pneumonic con-solidations, and seven weeks illness", and Sir Andrew believed that a malarial influence might have been at work in this case, and that gout was a possibility. In a case which I attended the patient had five different shivering while in bed, and after each a new patch of crepitation was found. She lay for 5 weeks. Weakness and old age were, I think, the causes of the unusual symptoms. The occasional cough, and slight viscid unstained mucoid expectoration, seemed to be the same in both cases. Referring to the same subject Sir Andrew Clark spoke as follows at a meeting of the "Clinical Society of London" in 1880, "With a history of Chill, with distress and prostration, with fever

and a disturbed relation between pulse and respiration, one may be absolutely certain that the case is one of "pneumonia", and again, "pneumonia might be diagnosed from the general conditions; because in a large number of cases there is neither cough, nor expectoration, nor pain in the side."

I dont Know that one could be absolutely certain that pneumonia was present under the above circumstances, as we may have all the symptoms, and only a catarrhal condition in the lungs. More attention should be paid in ordinary practice to the frequent absence of cough, expectoration and pain in cases of pneumonia. It is fortunate that an authority so undoubted as Sir Andrew Clark has written so accurately regarding what an ordinary practitioner is almost afraid to discuss in Consultation.

If the chill passes into pneumonia, and this is treated properly, the patient in almost all cases afterwards avers, that he feels better in health than he has done for months. This may be due to the pneumonia necessitating the proper amount of rest. The hyperaemia which is present in many parts of the body

slowly disappears, and the various organs gradually return to their natural condition.

Bronchitis, and Capillary Bronchitis, fall now to be considered. The former follows the acute variety of chill, and is so well known, that we may pass it over altogether.

Capillary Bronchitis following ordinary Bronchitis and some forms of phthisis is a very fatal disease. It is seldom looked on as anything else than a secondary complaint, but I believe it is identical with the minute catarrhal condition usually met with in cases of chill. It is very fatal in old people and is here usually preceded by a fainting fit, which is looked on as of slight consequence, until a few days after, when the patient gets suddenly worse and dies.

Influenza may properly be referred to here. We have all been expecting to hear of its Bacillus, but as yet it has not been discovered. Many statistics have been published to shew that minute expectation in the lungs is seldom or never absent. Quite recently an eminent bacteriologist in Germany found that the smallest tubes in the lungs were always affected in this disease. I have not yet met a case where the rales were absent, and can come to no other conclusion at present than that Influenza is often

an exceptionally severe form of chill. This of course at once raises the question of the infectivity of Influenza – admittedly a difficult one. My own impression is that the facts are sufficiently accounted for by the view that a widely prevalent though ill understood – atmospheric condition affects simi-Larly great numbers of exposed persons. There is nothing to hinder a case of Influenza being treated thoroughly. So long as the rales are present the patient should be confined to bed. Complications of course need to be considered. If this rule is followed out there would be fewer cases of pneumonia to deal with afterwards, many lives would be saved, and we would have more credit with our treatment.

In cases of chill Epistaxis is common, and is often troublesome.

Herpes labialis occurs here as well as in true pneumonia. In several cases of Herpes Zoster I have found, on examining the chest patches of minute crepitation, with the usual history of chill. The crepitation has in every case been on the same side of the chest as the Herpes Zoster.

<u>Nervous System</u>. Sleepiness, or Sleeplessness, are among the primary symptoms under this head,

The latter is much more frequent especially at the com-
-mencement of the disease, and is often very troublesome.
It is important that one should be able to diagnose
the cause of this affection. In many cases the treat-
-ment prescribed is much outdoor exercise, and
there is no doubt that exhaustion has often the
effect of causing sleep. The true way, and as I have
found the only satisfactory way is to order rest, and
plenty of nourishment, until the sleep returns. In
a few exceptional cases it may be necessary to
coax it back, to begin with, by means of a sedative.
The opposite symptom sleepiness comes on, when
the patient is getting better, and is the best sign of recovery.
It points to reaction following excessive circulatory
activity.

Headache, neuralgia, toothache, Ringing of the ears,
Lumbago, sciatica are all to be met with, though
the grouping of these as nervous symptoms may
be only partly correct. Headache, toothache, and
tinnitus aurium I think point more to the cir-
-culatory system. The only effectual way that I
have found of curing the tinnitus has been, by
enforcing rest. Not long ago I had two very bad cases.
One of them a strong man about 60 years of age, who
happened to be suffering both from tinnitus and lung

Catarrh, at first refused to stay in bed. The disease passed into pneumonia, and even then he persisted in putting on his clothes and going out. Shortly afterwards he died. All through the illness the ringing of the ears was only benefited by the rest in bed, but when he got out of bed he said it was like to drive him mad. At these times antipyrine helped it. The other case was a woman about the same age, and about 14 or 15 stones weight. She had an ordinary chill followed by severe tinnitus aurium, and was treated for the latter for some months before I saw her, but never by means of rest. She was, when I examined her, suffering from pneumonia of the base of left lung. It was about three months before she was able to leave the bed, and since then fully a year has elapsed, during which she has enjoyed excellent health, although on over exertion the tinnitus threatens to return. To keep it away she goes to bed regularly every night about seven or eight o'clock.

Convulsions especially in children occur now & again. A few months ago a mother while suckling her baby, a few days old, had an ordinary chill. Some days later I was called in to see the child which had taken a convulsion, and to all

appearance it was suffering from cold too. It kept on taking convulsions for 3 weeks, with never more than a quarter of an hour's interval, and then died. The convulsions had a strong resemblance to epileptic fits, but the whole body shared equally in the turmoil. I only give this case because of its exceptionally severe character.

I have many reasons for adding Chorea here, if not as a symptom, as a sequel. Chorea is mostly found among poor people, and is twice as frequent in girls after the age of 9 or 10, as it is in boys. Anything which brings down the body tends to produce a chill. "Dr Dickinson describes dilatations of the minute arteries as existing throughout the brain and cord, more especially however in the Corpus striatum and Thalamus, with small haemorrhages, and considers the disease to be due to a widely spread hyperaemia of the nerve centres." This occurs in other parts of the body when a person has been suffering for some time from the effects of a chill. The first case of Chorea I attended in my present practice, was that of a young woman who had been in the Western Infirmary of Glasgow for a month, and who was said to have been sent out incurable. I would not take charge of her until the parents had promised to follow out the

instructions thoroughly. The chorea had lasted for three or four years, and chiefly affected the upper extremities and head & neck. The tongue movements were very bad, the others not quite so bad, although easily seen.

On examining her lungs there was decided consolidation and minute crepitation at the right apex. This part was blistered twice over, and a mixture containing Iodide of Potassium and Arsenic given. The latter had to be discontinued as it did not seem to agree with her. The consolidation disappeared slowly, and she was exactly 10 weeks in bed, and for a considerable part of that time was not allowed to lift her head off the pillow. Previously she had complained of cold every day, although well wrapped up with plenty of flannel. This complaint disappeared also. While in bed she was massaged for about half an hour every day. At the end of the 10 weeks she was in better health than she had ever been, the chorea had disappeared, and she was over two stones heavier than when she lay down. She remained well for fully six months when she took another cold, and the chorea returned slightly. After another fortnight in bed she was well again. This time she

had a bad cough, and some bronchial catarrh. I told her parents that she should be sent to service in another town, where colds were not so prevalent.

The next case was that of a girl about 12 years old. She had an ordinary chill followed by very bad bronchial catarrh. If I remember right the moist clicking rales of a subcrepitant nature could be heard without putting the ear close to the chest, they were so pronounced in character. She had to be carefully watched to keep her from falling out of bed. I had mustard wet with cold water applied to her back from the neck down. The back was thoroughly scorched, and remained red for some days. The day following the application of the mustard, the chorea was greatly better, and the girls condition very much improved. In a fortnight she was perfectly well, and is now in excellent health. I think there is little doubt that the chill was the real cause. Since then I have had two slight cases both of them due to ordinary colds or chills.

Epilepsy I have often noticed much worse after ordinary chills, but have not yet had a case to treat from its commencement. From

Quains Dictionary of Medicine I took the following premonitory symptoms. Headache, Backache, Vertigo, sensorial disturbances, sleeplessness, drowsiness, palpitation, dilatation or contraction of blood vessels anywhere, altered breathing diminution or increase of the various secretions hoemorrhages from the nostrils or other parts, fever more or less marked weakness, choreic movements, cold feeling in the back or shivering.

Cerebral Hoemorrhage I have repeatedly seen subsequent to chill. In this connexion I was glad to find that my views on the subject were to a great extent confirmed by Dr Ballard in a recent report to the Local Government Board's Medical Department. In an epidemic of pneumonia at Middlesbrough, he found quite a number of cases in which apoplexy followed pneumonia.

Digestive System. The tongue may be white or pale and flabby, and may be brownish towards the throat. If, of the disease is of any standing, indented by the teeth at its edges, sometimes it even seems swollen. The buccal mucous membrane is whitish, and marked by the teeth, especially opposite to where the teeth meet, a distinct ridge being noticeable here. A bad taste

in the mouth is often felt in the morning. This seems due to blood oozing out of the gums and mucous membrane. Burning sensation in the gullet may be complained of. This is often complained of in the stomach. It is well known that uric acid accumulates in the body in excess in chest affection. Vomiting may be severe at first, and a great quantity of bile be brought up. Many symptoms pointing to catarrh of the stomach are noticed. The bowels are usually very costive and medicine has little or no effect. Rest has the same effect here as in other places, the bowels gradually returning to their usual state of health and work.

Hoemorrhoids are common, and sometimes bleed badly. This suggests itself as a possible explanation of the frequent association of fistula with chest disease.

Haematemesis and Melaena are occasionally seen, the former in its severity sometimes threatening to destroy life in a few minutes.

Ordinary "bilious attacks" may often be classed under chill, and the treatment be of a more beneficial nature if based on this view.

Jaundice I have frequently seen accompany chill, with, & without pneumonia. The treatment of this

condition, when it is due to chest disease, is so widely different from that proper to it in other circumstances, that the true diagnosis is of very great importance. Even when it is due to catarrh of the bile duct, may the catarrh here not be a symptom of the general bodily condition, as when it occurs in other places? I can see the use of plenty of driving, where the person has plenty of fresh air, is thoroughly wrapped up, and has practically no exertion; but as to the rough and tumble driving which is so often prescribed, and to people who are not accustomed to driving, I think the result will be the good the fresh air has done, minus the injury done by the jolting. In no case have I seen enlargement of the liver, & my belief is that, in many cases, the bile is reabsorbed by the unhealthy liver before it reaches the gall bladder. In one case, on a cold winter day, a middle aged man had been enjoying a game at curling with his coat off, when he took a chill, and had a return of jaundice which had troubled him occasionally for the previous two years. When I saw him he had slight pneumonia of one lung and decided catarrh of both. I advised rest in bed for 3 months. The advice was attended to for a month, during which time only one

shivering occurred, although he had been taking, for a week or more, one or two shiverings or rigors every day. On rising and going out at the end of the month the shiverings returned, also the jaundice, and he died within a week. For years previously he had been subject to frequent chills, cough & shortness of breath. These appeared to date from an attack of pneumonia in boyhood. Other cases could be given where jaundice followed an ordinary chill, but too much space has already been allowed.

Inflammations in the abdomen arising from chill, may be treated of by reference to one very bad case in which I was led to believe that the abdominal nerves had been affected. An engine driver who had been complaining of chills and shiverings for a month, was suddenly prostrated. His right lung was quite dull at its base, abdominal pain was present, but not so severe as to lead me to think that inflammation was present of so severe a character as to cause the death like appearance which he presented, nor even taken along with the pneumonia did it seem sufficient. He died in 24 hours.

Kidney disease. I have seen various affections of the kidney follow chill, but the only one requiring special mention is hæmaturia.

This condition may come on either in the acute or chronic forms of Chill, but more often in the latter. The only satisfactory way of treating it, from my own experience, is to treat the Chill as given under "Treatment," and if necessary after that, to try what can be done by medicines. Cannabis Indica has enjoyed a reputation of late but I have found Tincture of ~~Hyoscyamus~~ Lycopodium in large teaspoonful doses more effectual.

Circulatory System. Palpitation is very often complained of, but it soon subsides when proper treatment is adopted. Slight murmurs may be detected in connexion with the heart, probably in many cases due to anaemia - I am speaking of course of chronic chill - and then to structural changes, especially when Rheumatism is present. When the pulse is examined soon after the shivering, it is full and strong, and sometimes bounding, as if to overcome obstruction. This gradually subsides, and a soft easily compressible pulse, often irregular, takes its place. The pulse rate may keep up about 75 to 80 or even more per minute, for a week or two while in bed, and then slow down to 50, 45, and even 40, then gradually rise again to about 60 or 65.

Anaemia is very often associated with this disease, especially in young women. Iron seems to be of very little use, but they can be cured by plenty of rest in bed. If massage is added, improvement is more rapid.

Rheumatism, usually rather subacute than acute, I have frequently seen following chill. An attempt has lately been made to put this disease down to bad drainage in the hope of coming some day to the conclusion that it is caused by bacilli. If bacilli are present I have little doubt, that in the majority of cases they are secondary. Rheumatism is said only to be fatal when complications arise, and the most common complications are said to be congestion, or inflammation of the lungs, and inflammation of the heart and pericardium. I would suggest that this trouble is brought about by chill, producing catarrh first of the lungs, and the obstruction produced, causing hyperaemia of the synovial membrane of the joints. When once started I believe it may return, from the effects of cold, without the lungs becoming affected, but as yet I have not had a case of this sort. This hyperaemia takes place

in almost every part of the body, if the chill is not treated. One would expect it to take place more readily where there is least resistance to it, as in the lungs first of all, then in the hollow organs, and joints. By & by this general obstruction begins to tell on the heart, it gets irregular in its action, and disease of the valves follows.

Puerperal condition. When chill occurs in this condition we have a very serious complication to deal with. The temperature at once mounts up to 103° or even 105°. Severe labour is usually the cause of the chill. A slight cough may often be heard from the birth on till the shivering takes place. The womb, at that time, is a most suitable organ for congestion or hyperaemia to arise in. The result is that the lochia cease, and absorption takes place. Many cases of puerperal fever are I believe simply produced in this way. Regular epidemics of this fever have occurred in this neighbourhood for many years, and many deaths have resulted. Darvel lies in the valley of the Irvine, and like Kilmarnock, has a very high deathrate in phthisis. Most of my patient seem to die

from phthisis. Many causes contribute to this. The death rate has I suppose averaged about 24 per 1000 during the last 12 years. That death-rate does not look well for a population of 2000. The people are always taking chills, and it is the unanimous opinion of doctors who have had anything to do in this locality, that it is so. In pregnancy a great help in preventing chills is to keep blankets on the patient after delivery. In one case the woman had jaundice 6 months before the end of her term and made a good recovery. When labour made its appearance the pains came more rapidly than I have ever seen. For two hours she had no rest, the severe pains following each other continuously. After the birth she had a nasty quick cough, and next day she shivered badly and died in a week.

Erysipelas, but I think not true erysipelas, is not uncommon. Some of my patients had it for the first time, and there was undoubted catarrh of the lungs in all of them, but recently some have turned up who have had many attacks, and no rales were to be found. In subjects of this kind, the

skin seems to have been made very unhealthy, and consequently offers no resistance to an increased blood supply, driven in by the effects of cold and other causes.

Treatment. The above are the main manifestations of chill that have presented themselves to me in my daily practice, during the last six years. Among old people the disease is specially dangerous, and in one form or another, is the cause of severing the thread of lives that might otherwise be much further prolonged.

The indications are alike for prevention and treatment. In this country it is cold above all other things that we have to fear. The powers of the body should be strengthened against cold, by all those measures which are conveniently classed under the name of personal hygiene. Nothing is of more consequence than the morning tub, which is so proverbially connected with an Englishman's daily habits, but I fear that the proverb exaggerates the reality. In the upper classes of society a daily bath is undoubtedly a

prevalent custom, but among the great majority of the lower orders it is a luxury rarely indulged in, by most of them indeed it is apt to be looked on, less as a luxury, than as a punishment. And the one or two roomed houses in which so many families live, with their inefficient water supply, and general want of accommodation, are sufficient to account for the insanitary habits of the inmates. Warm woollen underclothing, frequently washed and changed, is of scarcely less importance. Fresh air, both within & without the house, also strengthens the body against chill. After severe exertion and unusual perspiration, a rub-down with a damp sponge, and also if possible a change of underclothing should be practised.

For curative treatment, the first, and the second, and the third point, is prolonged rest in bed. The garment here too should be of wool, and if there is any tendency to excessive perspiration, or to the least feeling of chilliness, the patient should lie between the blankets. It is the most difficult thing I know of to get people to realise the

importance of checking the disease at its commencement in acute cases, and of staying long enough in bed in chronic cases. Half cures are an every day result of neglect of these precautions, and the price of the half cure, is either a very prolonged subsequent stay in bed, or resulting chronic, and in the end fatal disease.

For medicines, that which I have found most useful, both in acute and chronic cases, is salicylate of Soda in its so called "physiologically pure" form. In acute cases in adults, 10 grain doses repeated hourly, until free perspiration is induced. In bad case have I found it necessary to go beyond four doses, and two or three are usually sufficient. At the same time that the medicine is being administered, the ordinary means of assisting perspiration are to be adopted – hot water bottles, extra blankets, warm drinks &c. When the perspiration is very free a rapid sponging down with warm water, and a change of flannels is adopted.

In Chronic cases smaller doses of

Salicylate are given, usually from 5 to 8 grains every four hours, during the day for a few days at the beginning of the attendance. This has the effect, especially in old people, for whom the dose is 5 grains, of giving a good night's sleep.

Local symptoms belonging to the chest, alimentary canal, nervous system, &c, require to be treated as they arise. In many cases of Gastric heat & irritation, carbonate of Bismuth along with a bitter tonic is of special service. The feeling of oppression over the chest so frequently complained of, is greatly relieved by enemas of hot water, or hot water and turpentine, so as to cause free purgation. Hot application to the chest are also beneficial for this feeling of oppression. I need not go into detail regarding expectorants, especially as I have very seldom needed to use them.

A well regulated and nourishing diet is of course to be attended to. My general practice as to alcoholic stimulants has been to order them very sparingly, and only when there were distinct indications for their use.