

rate of mortality from these diseases augments with the extension of the period of confinement. In the Millbank Prison he has shown that the mortality is double that of the metropolis, and that the deaths from consumption are three times as numerous. We have seen that soldiers suffer from the constrained life they lead in barracks, and there can be no doubt that various other constrained modes of living, as, for example, in work-houses, have a similar effect. I have seen the same injurious effect exemplified in the development of consumption in pupils subjected to the confinement and restraint practised in some boarding schools. A constrained monotonous mode of life is unquestionably a fertile cause of consumption, and especially when to this is added privation of the stimuli of exercise, light, and fresh air; and their influence is aggravated by insufficient or unwholesome diet and exposure to damp and cold.

Mental Influences. The mind and the imagination have a wonderful action on the body; but it is extremely difficult to appreciate accurately their effects on diseases. I believe that the depressing mental emotions and affections have a directly sedative effect on the lungs, and as certainly reduce the intensity of the respiratory function, as exercise and muscular action increase it; and, whilst I think that cheerful mental occupation and a hopeful condition of mind have both a prophylactic and curative tendency, which it is most important not to overlook in treating the disease, I feel convinced, from my own observation as well as from some of the facts already adduced, more especially those in reference to criminals, that the depressing mental influences, such as grief, disappointment, anxiety, and the loss of fortune, and especially of friends, have an influence greatly beyond what is commonly attributed to them. I have never seen anything that would lead me to believe that consumption is at all a contagious disease, though I think it is injurious for a healthy person to sleep with one who has active pulmonary disease; but we not unfrequently find a husband, and more frequently a wife, attacked soon after nursing the other. In all such cases, where I have seen one relative attacked after another, I have attributed it to mental depression, and the trial of the feelings which must necessarily be experienced in watching, often for months, the fatal progress of this wasting and distressing disease in a near relative. In the case of a brother or sister, we have also to take into account that these influences act with double force on a constitution hereditarily predisposed.

Defective Diet: Insufficient Clothing: Cold and Damp. These are well known causes, the influence of which has never been underrated. It is difficult, however, to bring forward facts proving clearly the operation of these causes separately, as they generally act in combination with each other, or with some of those already mentioned. I look, however, on them as minor causes; and I may state that, whilst soldiers in barracks are more subject than any other class of persons to consumption, this is not the disease from which they suffer in the field, where they are exposed to all these causes. The Crimean experience proved this, and showed that exposure to cold, wet, fatigue, and insufficient food, caused the development of scurvy and the zymotic class of diseases, fever, cholera, and dysentery; but not consumption. It is also known that the extreme cold of very northern latitudes does not render consumption a more prevalent disease, but has the opposite tendency. This class of causes acts powerfully, however, in conjunction with others.

Intemperance and Irregularities of Living. Though consumption is not the disease to which the habitual drunkard is most liable,—those of the nervous system and of the digestive organs being more common in intemperate persons—yet I have so frequently seen tubercular disease of the lungs in persons of dissolute habits, that I believe it has a powerful influence in conjunction with other causes and irregularities of living, in producing this disease.

On this subject a writer, from whom I have already quoted, observes very justly, that of all vices none are so apt to lead on to consumption as the unnatural or unrestrained indulgence of the sensual passions. To this cause, indeed, the germ of tubercles are very frequently traceable; and I am convinced that the many bearings of this subject upon the physical and mental energies have a much closer and more frequent relationship to phthisical affections than we can ever expect, from their peculiar nature, to see fully demonstrated. It is probably in this way that so much evil appears in the sequel to marriage contracted at too early an age either for the due estimation of its responsibilities or the perfecting of the constitution, the penalty for the violation of such a natural law being exacted in the subsequent establishment of phthisis in the parent or in the offspring, or, perhaps, in both.

Effect of other Diseases. Tubercular deposits are most apt to be formed in the lungs during debilitated states of the constitution, and we know from experience that consumption is not unfrequently developed during convalescence from fevers and other diseases. Scarlet fever and measles are especially liable to stir up the tendency to the disease in children of delicate constitution; and, therefore, in such cases the greatest care should be taken to remove completely the attacks of bronchitis and inflammation of the lungs, which are so frequently induced by these diseases, and to restore the health by suitable tonic treatment, and those means best adapted to prevent the tubercular tendency.

Influenza, bronchitis, and pneumonia, and chronic pleurisy, have also, I believe, in many cases, a direct influence in exciting the deposit of tubercular matter in the lungs. Their influence is most frequently observed in those predisposed, hereditarily or by the action of the causes which have been already mentioned, and I believe that it has been rather underrated by many medical men, who have appeared to think that these diseases act merely by exciting into activity preexisting or latent tubercles, or are themselves produced by the irritation of the tubercular deposits. In a practical point of view, we must not, however, overlook the fact that tubercle is nearly allied to the lymph effused by healthy inflammatory action, and though ordinary tubercle is usually deposited independent of an inflammation, we know that the products of chronic pneumonia are so nearly allied to tubercle, that they often run precisely the same course; and I believe that when the blood is in a fit condition to cause tubercular deposition, inflammatory irritation will readily determine it in the part so affected.

CASE OF DIPHTHERIA.

By JOHN M. BRYAN, M.D., F.R.C.S.Eng., Northampton.

MASTER B., aged 6, the son of respectable parents residing at a farmhouse in a healthy situation, one mile out of Northampton, was seized with sore-throat on July 9th, 1857. I prescribed an aperient powder of jalap and calomel to be taken every night, without seeing him.

July 12th. I was hastily summoned to the patient, and found the whole fauces intensely swollen and transparently red. Deglutition was painful and difficult; there was high fever; and the pulse was rapid. His bowels had been opened by the powders; and I now ordered eight grains of chlorate of potass to be taken in water every three hours, and the following liniment to be applied to the throat on spongio-piline:

℞ Aceti cantharidis ʒi; spiritus camphorati ʒss; olei olivæ ʒi. M.

This soon blistered severely. He was extremely intractable in taking medicines, or in allowing an examination to be made of his throat: the attempt to do so threw him into violent paroxysms, almost amounting to convulsions.

July 12th. The symptoms were much more severe; there was a pale appearance of the whole internal fauces, and a false membrane was forming. I applied freely, twice a day, a solution of nitrate of silver (ten grains to the drachm); and continued the chlorate of potass.

July 14th, 6 A.M. He was much worse, the fauces being quite coated with ash-coloured false membrane. I applied the solution of nitrate of silver, and gave four grains of jalap and a grain of calomel—to be repeated in four hours. The following mixture was also prescribed:

℞ Infusi rosæ compositi ʒij; acidi sulphurici diluti mxv spiritus ætheris nitrici ʒi; syrapi ʒss. M. Fiat mistura cujus sumatur cochleare i medium 3tiis horis.

1 P.M. I again visited him, and applied the caustic solution freely. Some considerable portions of false membrane, of fœtid odour, came away, with some relief. Beef tea and small quantities of port wine were ordered.

8 P.M. I again applied the solution of nitrate of silver to the fauces.

July 15th, 5 A.M. The symptoms were very extreme, having also become those of decided croup. I applied the caustic solution very freely, by means of a piece of sponge fastened to the end of a pencil, and detached a good deal of very fœtid membrane. Breathing and deglutition were very difficult; and, as there was apparently no chance of recovery, I gave him a grain of sulphate of copper in a teaspoonful of syrup every hour. After he had taken one or two doses, retching and vomiting came on, attended with detachment of quantities of false membrane and tenacious mucus; and a clearing of the throat took place, with

Downloaded from <http://www.bmj.com/> by guest on April 20, 2024

great relief to the breathing. The sulphate of copper was continued at longer intervals for thirty-six hours, together with beef tea, port wine, etc.

July 16th. He was much improved.

July 17th. The improvement continued. The sulphate of copper was given once every four or six hours: sickness followed each dose, with more or less detachment of membrane. His swallowing being now more free, beef-tea and port wine were given largely; and this day he was prevailed on to use the following gargle:

℞ Acidi hydrochlorici mxx ; mellis rosæ ʒss ; aquæ ʒv . M.
From this time he gradually improved, and would have been soon convalescent, but for considerable sloughing of the external fore part of the throat, that had taken place from the vesicating application used at the onset, so that he was not off my hands, quite well, until August 2nd.

His mother, a young widow, who was in constant attendance upon him, had a smart attack of sore-throat, evidently of the same character, but of a slighter degree; it was removed by the use of hydrochloric acid gargle, with external counterirritation on the throat, and saline aperients.

REMARKS. In the foregoing case, although little had been made public at that time of diphtheria, and no case of the disease had previously come under my notice, I had no doubt that it was a more formidable disease of the throat than I had met with for some time, if I except cases of croup. From the intractable state of the little patient, there was not a good chance of using remedies; and although, from having seen many milder cases since, in which the tincture of sesquichloride of iron has appeared of service, yet I feel certain that the sulphate of copper saved this child's life, as I have frequently found in severe and hopeless croup cases, and which, I think, is worth a trial where other remedies fail. There was in this case no evidence of contagion; scarlatina was not prevalent in the neighbourhood; nor was there affection of any internal organs.

Gulstonian Lectures

ON

FEVER AND INFLAMMATION.

DELIVERED BEFORE THE
ROYAL COLLEGE OF PHYSICIANS, LONDON,
1859.

By WILLIAM ADDISON, M.D., F.R.S., Fellow of the College.

LECTURE II (continued).

XI.—INFLAMMATION AS A THERAPEUTICAL OR DEPURATIVE REACTION, IN CASES OF FEVER.

In some fevers, or in some cases of fever, the natural depurating organs are sufficient; or, by proper medical treatment, they may be roused to a sufficiency for the elimination and discharge of the morbid matter made over to the plasma from the diseased corpuscles. If this can be accomplished, there will be no call or necessity for any preternatural depurative reaction between the plasma and the common tissue. In such case, therefore, the person has, and must go through, the fever; that is to say, the blood corpuscles must pass through the phases of their disorder; but he is saved, by judicious medical treatment, from a local inflammation, because distemperature of the plasma, consequent upon disorder of the corpuscles, is met and relieved by the natural working of the depurating organs. These organs act upon the plasma; and inflammation is an action between the plasma and the vessels. By one or the other, or by both ways, the fluid of the blood may be relieved of hurtful matter: and, as the severity and duration of symptoms of fever are a measure of the severity and duration of disorder in the corpuscles, so, we apprehend, the severity and duration of the consecutive inflammations are a measure of ease or difficulty with which the morbid matter separates, or sloughs off, from the rest of the fluid, and is made over to the common tissue for discharge. But, in cases of fever, we apprehend that neither the natural organs nor inflammation can effect this depurative purpose, so long as disorder is limited to the corpuscles.

The *materies morbi* of the corpuscles—of whatsoever nature this may be—must leave them, and be discharged into the plasma, before any depurative means can come into play for the final expulsion of it from the fluid of the blood. This

appears to be the *rationale* of our inability, by any means which have hitherto been tried, to cut short the progress of a fever.

The argument respecting the therapeutical properties of inflammation in distemperatures of the fluid of the blood was partially discussed in the first lecture; and we now proceed with what further we have to say on this subject.

CASE. At 8 o'clock in the morning of Dec. 28th, a physician, who was assisting at the *post mortem* inspection of the body of a lady who had died of puerperal peritonitis, unfortunately pricked his finger. Twelve hours afterwards, he felt some pain at the part; and he had it touched with nitrate of silver. During the night, shiverings came on, and he felt extremely restless. On the morning of the 29th—the next day—the finger was swollen, and red lines extended up the arm. In the evening of that day, the symptoms were not abated, and there was great prostration. On the 30th, the hand and arm were greatly swollen, the glands in the axilla were affected, and the pain was very great. On the 31st, the pulse beat from 90 to 100 in the minute; and the breathing was heavy and irregular, with torpor and drowsiness. In the evening, all the symptoms were increasing; and now an erysipelatous blush from the axilla extended over the side of the chest. During the night, the breathing became difficult, and the drowsiness passed gradually into deep stupor. Death took place at six o'clock in the morning of January 1st, not quite four days from the infliction of the wound.

In this case, the phenomena, in all important respects, are similar to those observed in traumatic erysipelatous fever, and in puerperal fever. The circumstance of the disease arising in the manner related—namely, from inoculation of a poison from the body of another person who had had puerperal fever—establishes the relation between it and the contagious fevers, and shows that the fatal termination in so short a period is to be attributed, not to inflammation, but to disease of the blood. If this be assented to, the case is taken out of the category of inflammatory diseases, and is placed in that of blood-diseases.

But if this and analogous cases—if erysipelatous fever, puerperal fever, gout, small-pox, and the other exanthematous fevers—be considered as blood-diseases, a great step indeed will have been taken, in the direction we are arguing, towards removing inflammatory reactions altogether from the pathological list; and a wide avenue is opened for a reconsideration of their true import.

Moreover, much doubt is thrown upon the value of the labours of the pathological anatomist, who may regard effects left by internal inflammation in fatal cases of blood-poisoning as showing anything whatever of the nature or seat of the disease. For the question arises, whether inflammation, and the suppurations which may appear in contagious fevers, are not appropriately placed in the same class with inflammation and suppuration in small-pox, sloughing carbuncle, and necrosis of bone; all of which are indisputably therapeutical reactions, the only difference being that, in the one class of cases, the actions arise for therapeutical purposes in the solid parts—the common tissue; in the other, for therapeutical purposes having reference to the fluid of the blood.

If we impartially review phenomena of inflammation as a matter of natural history, and begin with the simplest cases—scalds, burns, sloughs, and fractures (injuries to the common tissue), and boils, eruptions, gout, and small-pox (from injury to the qualities of blood)—we can scarcely fail of perceiving, in both classes, that the forms and amount of the action depend upon, or are governed by, the amount or extent of injury sustained. And, if hindrances protract the process of repair, also analogous difficulties protract depurative forms of inflammation. If keeping peas in a sore protracts granulation and discharge, so also perseverance in unwholesome articles of food will protract ulceration. In mechanical injuries, the cause of the injury (the heel of the horse, or the cart-wheel), the part injured (the torn flesh, or the broken bone), the extent and nature of the hurt (contusion, laceration, and comminution)—all these, and also the subsequent reaction (the process of repair), are objects either of sight or of touch, or of both. On the other hand, in injuries to the blood, all these things are, and to a great extent must remain, matters of reasoning and deduction. We have said, that very little can be demonstrated of the vital and depurating processes constantly going forward in the blood of the living person. In the engrafted small-pox, it is true, the poisonous matter introduced into the blood, and the consequent inflammation and suppuration in the skin, are seen; but the essential part injured—the elements of the blood—the extent of their injury, and the depurative reactions