cele, which practically always depends on the rupture of a pregnant tube.

A case of this kind once seen is never forgotten, and in no class of cases is the value of early surgical treatment brought home so forcibly, both to the patient and her friends as well as to the medical attendants themselves, as in this. I have had the privilege of saving several valuable lives after this accident, and in only one out of a number of cases has death followed on operation, and in that instance the patient had lost blood to an enormous extent and died of pulmonary thrombosis the night subsequent to operation. I will only relate two examples, but they will serve to illustrate my remarks.

About 11 o'clock one morning a medical friend called and asked me if I would see his wife, who had been taken suddenly ill at breakfast, and had been carried to bed in a fainting condition; she was only recently married, and had missed one period a fortnight before.

I found her only partly conscious, and pulseless, looking as pale as the sheet on which she was lying; the history of a sudden pelvic pain, followed by faintness and the presence of a fluid thrill in the lower abdomen at once rendered the diagnosis clear, and within a very short time I had the abdomen opened, and a ruptured tube still bleeding ligatured and removed. Several pints of blood and clot were washed out of the abdomen, and drainage was adopted. Recovery was speedy, and the patient is to-day in good health.

In another case my friend, Dr. Drake, asked me to see with him a young married lady, who had been suddenly seized while at the railway station with pelvic pain, followed by faintness, and on arrival at home by repeated fainting attacks. The same history of a missed period and the presence of fluid in the abdomen led to a diagnosis which an abdominal section verified. After removal of the ruptured tube, and after clearing the abdomen of blood, speedy recovery ensued, and that lady is now in good health.

The important point to bear in mind in these cases is that delay is worse than useless, it is positively dangerous; and though in a case I saw with Dr. Husband at Ripon we succeeded in saving life by operating on the second day, there may be no second day reached, and if we want to be certain of saving life we must interfere at the earliest possible moment.

THE LUMLEIAN LECTURES

ON

THE SEQUELS OF DISEASES.

Delivered before the Royal College of Physicians of London, March 26th, 1896.

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LECTURE III.

[ABRIDGED.]

THE sequels of syphilis are now amongst the best recognised disorders we have to deal with. Their variety, complexity, and far-reaching nature are appreciated. Much light has been thrown upon them in the course of the last thirty years, and many labourers have worked in this field of pathology, not a few of whom have been our own countrymen. We may feel sure that a great variety of disorders depending on manifestations of syphilitic virus constituted difficult problems for solution to our predecessors, and no less enabled many of them to score remarkable successes in the days when mercurial treatment was so largely, and in an empirical routine fashion, in vogue. For the most part, it may be affirmed that the sequels of syphilis pertain to adult and middle life. I am reminded here of an axiomatic declaration of the older physicians related to me by our learned librarian, Dr. Munk, to the effect that many of the mysterious and puzzling cases of disease occurring in early life generally depend upon tuberculous processes; those commonest in middle life upon syphilis; while those

occurring in later periods are generally dependent upon gouty manifestations.

In these days we do well to recall the wisdom and shrewdness of the great men who have preceded us, for we are rather apt to think that we have lighted our own torches and to regard those handed on to us as but feeble and flickering links. Our modern electric illumination sometimes fail us, and we may be glad to fall back upon the older sources of light. We have to note as sequels some of the so-called secondary phases of syphilis, and may not only regard in this light such symptoms as appear after a period of apparent complete restoration to health in the form of late, or so-called tertiary, manifestations. These appear from one to two years after primary contagion, and may recur any time within the life of the patient. Yet we can draw no hard and fast line between the end of the period in which secondary and that in which tertiary troubles may arise.

Attention has recently been directed to the onset of grave nervous symptoms, such as paraplegia from transverse dorsal myelitis, general analgesia, anæsthesia, and acute multiple neuritis in patients at an early period after primary infection, at a time, that is, when secondary manifestations are most likely to occur. So, too, neuritis, affecting single nerves, may be an early occurrence. Syphilis, as a destroyer of arteries, may act in this fashion, with the production of grave symptoms within the first year of primary infection, at a period when only secondary manifestations are to be expected. The importance of a due recognition of these facts is great in respect of prompt and adequate treatment since early lesions of this character are distinctly more amenable to the influence of mercury than are those which arise in the later or tertiary stage, and are prone to begin slowly and to prove both chronic and rebellious under any treatment. These early sequels pertaining to the secondary or constitutionally active period of the disease are apt to develop rapidly, with serious disturbance of the general health. They are often productive of symmetrical lesions, and they quickly subside on appropriate treatment. We may not look for them, as Mr. Hutchinson tells us, within six months of the primary lesion. Most of them relate to the arteries of the pia mater of the brain and spinal cord, and in this way lead to nervous symptoms. The nervous elements may, however, be primarily involved in this stage, as evidenced by the occurrence of neuritis and myelitis with both motor and sensory symptoms. In this secondary stage the blood and inflammatory secretions of the patient are infective and capable of originating a chancre. The latter or tertiary sequels occur without constitutional disturbance, slowly, generally unsymmetrically, and are more distinctly local in character. The patient's blood and secretions are non-infective in this stage.¹

Mr. Hutchinson is disposed to regard all tertiary symptoms of syphilis as true sequels, or more strictly "regrowths." In support of this view he and other authorities adduce evidence showing that persons have become the fathers of families of healthy children, and have subsequently developed tertiary lesions. In such cases there must have been freedom from constitutional taint, although local conditions remained in a condition of latency or abeyance ready to be evoked by some determining excitant. It would be unseemly and unnecessary in these lectures to present to my audience any detailed account of the manifold tertiary symptoms of syphilis regarded as sequels, such being now matters of common knowledge. We are happily aware of the fact that in the majority of cases of primary syphilis prompt, adequate, and sustained treatment suffices practically to cure the disease and to avert the onset of sequels throughout life, and so we may fairly regard their occurrence as evidence either of imperfect original diagnosis or of incomplete treatment. The pathogenic conception of the malady as one dependent on a specific micro-organism helps us in forming an opinion—judging by analogy with the behaviour of other like organisms—that such particulate agents may long lie dormant in certain tissues, and only wake up into activity under various provocations, such as

¹ For many of these statements I am indebted to Mr. Hutchinson's address at the Royal Medical and Chirurgical Society introductory to a discussion on Affections of the Nervous System occurring in the Early (Secondary) Stage of Syphilis. 1895.

irritation, exposure to exhausting agencies, depressed vitality from the inroad of other diseases, and traumatism. The unsymmetrical character of these consequent lesions affords some evidence of their local and non-constitutional nature.

I have already referred to the occurrence of *tabes dorsalis* as a definite sequel in most instances of antecedent syphilitic infection, and I may add, too, that of general paralysis of the insane as one standing often in the same category. In my first lecture I adduced the fact that when women presented the symptoms of locomotor ataxia they were commonly found to have been at one time the subjects of constitutional syphilis. I regarded this fact as affording strong evidence of the former disorder being in consequential relation to the latter, as, in short, a quaternary sequel of syphilis. This contention is, I consider, still further supported by the occurrence of examples of *tabes dorsalis* in both husband and wife. My colleague, Dr. Ormerod, has reported two examples illustrating this condition, and he has referred me to a series of four or five other pairs of cases which have been recorded in this country, on the Continent, and in Canada, also to cases of pairs of general paralysis of the insane, nearly all of which distinctly prove that syphilis was the common antecedent factor. I therefore regard this evidence as irresistible and practically proving the case. In some of these instances the husband had *tabes* and the wife general paralysis, or *vice versa*.

Even *tabes dorsalis* has its own intercurrent sequels, amongst them being the peculiar acute onset of a riotous arthritis known as Charcot's arthropathy, which may affect several joints; also perforating ulcer of the foot, and the several varieties of crises, whether gastric, laryngeal, rectal, or vesical. We may note several degrees of gravity in the cachexia of inherited syphilis. There are often to be noted indications of a merely slight taint, such as anæmia, earthy complexion, and perhaps one or two characteristically modified teeth. General growth may be but little interfered with. In the graver cases we have usually present many, if not all, of the specific physiognomical indications, and in viable cases full development of the body is never reached. It is important to recognise even the minor indications of such taint, inasmuch as they may serve to throw light upon subsequently occurring obscure symptoms, and so afford a guide to treatment. Twelve years ago Mr. Hutchinson expressed the opinion that it is not the diathesis of syphilis that is transmitted from parent to offspring, but the germs of the disease itself—the particulate elements of the virus, a transference, therefore, of contagion rather than hereditary transmission. "A child inherits syphilis in precisely the same sense and in precisely the same manner as it may inherit small-pox." He believes that "no minimised transmission of syphilis is possible." The child gets either nothing at all or the germs of the disease, and in the latter case they will, subject to the laws of idiosyncrasy, develop equally in all cases. The minor indications of this specific taint I have alluded to may be amongst those which have not been permitted to develop fully owing to some inhibitory condition. Paralytic dementia, ophthalmoplegia, a variety of epilepsy, grave arterial atheroma, and general arterial sclerosis are certainly due sometimes to pre-existing syphilitic taint. These conditions have been called by Fournier *parasyphilitic* affections, by some post-tertiary, or quaternary. Lardaceous degeneration may sometimes be clearly traced to previous syphilis, not merely as an associated condition with gummata and a resulting fibrosis as in ordinary tertiary sequels, but as an independent and widely-spread degeneration both of viscera and of other portions of the frame, constituting, indeed, a variety of so-called syphilitic cachexia. Congenital syphilis may sometimes be followed by manifestations of Raynaud's disease with gangrene of fingers and toes. I have seen several examples. The conception in regard to these conditions is that the remote lesions are not directly due to syphilitic toxin, or to growths determined by it, but that a constitution, having been once tainted by this special virus and its ravages, becomes a prey to other specific degenerative changes which would in all probability not have occurred in persons not subjected to such an ordeal.

With several authorities I am in accord in regarding the occurrence of aneurysm as not infrequently a sequel of

syphilis, and this contention is strengthened by the fact that when this condition occurs in women, which is rare, they have commonly been the victims of syphilis. The same view is also tenable, in my opinion, in respect of cardiac aneurysm, which is usually a result of gummatous carditis. The latest researches on syphilis support the view of Paget and others, that the long-delayed manifestations of syphilis plainly indicate that there remain in the tissues of the body residues of the disease after apparent recovery, and that these may be roused into activity, affording specific characters of their own or modifying the signs of other morbid conditions with which they may be associated or combined, such as gout and struma. Examples of this latency pertain, indeed, to each phase of syphilis. Thus there may be remarkable delay in the formation of a hard chancre after primary infection. Delay in the onset of secondary symptoms has also been carefully noted. M. Diday's observations show, and Mr. Hutchinson confirms them, that intercurrent illnesses may cause such postponement. Thus typhoid fever and pneumonia have been proved to cause postponement of secondary symptoms for periods varying from three to over five months, the activity of the specific virus being suspended till recovery from these illnesses had taken place. These facts are very remarkable. Mr. Hutchinson, jun., has recorded an example of extraordinary prolonged latency in respect of tertiary manifestations. A man contracted syphilis at the age of 21 years, had secondary symptoms, and remained wholly free from any lesions till, after exposure to much privation, he had, at the age of 53 years, multiple nodes on the skull, ischium, and humerus. For thirty-two years, therefore, there had remained potential elements within the body ready to resume activity on due provocation. The only analogous condition to this is that presented by the strange behaviour of the malarial organism, which has a similar propensity to lie long dormant or latent within the body. "It is seldom that a syphilitic process develops thirty years after the malady, whether it be a direct or indirect process.....A period of thirty years after the primary disease brings most patients into the degenerative period of life,.....but the syphilitic virus has then generally ceased [to act]." It is highly probable, but not yet proved, that the infective microbes, if such they be, or possibly their germs, are present in tertiary deposits and completely localised there, though not always inactive. The presumed localisation and latency, or comparative latency, of surviving microbic germs appear adequate to explain the fact that persons so infected may long continue to produce healthy children, for our latest conceptions of syphilis lead us to regard the various active processes which it induces as the results of the presence of developed organisms circulating abundantly in the blood in the secondary exanthematous stage, and leaving behind germs localised in various textures which are inoperative till some exciting cause sets up their development with new tissue growths and other tertiary manifestations in later stages.

[Having thus reviewed the various sequels of the principal infectious disorders, the lecturer proceeded to consider very briefly the sequels that might occur in diseases of the nervous and respiratory systems, of the heart and blood vessels, of the skin, of the digestive tract and of the kidneys; these for the most part were shown to be neither numerous nor important. He concluded as follows:]

Having now discussed so far as I am able the various consequences and sequels of diseases—some of which may possibly have been wrongly interpreted or summoned and alleged to do duty for them by reason of the mental temper which always besets an inquirer into any particular set of circumstances—I may sum up my efforts by endeavouring lastly and concisely to classify, in accordance with the most recent knowledge available, the sequels that have come under notice. I mentioned at the outset of these lectures that a distinction should be made between complications, even late ones, of diseases and the sequels of them. I have tried to make this distinction, but it has not been quite an easy matter to do so. We are strictly concerned with the consequences of disease, or, in other words, the diseases of convalescence. A consideration of the whole group of acute infectious diseases, which furnishes the greater

² Gowers's Lecture on Adult Anterior Poliomyelitis, *Clinical Journal*, February 12th, 1895, p. 41.

number by far of those which have sequels, shows up this difficulty very strongly, for we have found that most of these consequential troubles owe their existence to specific residual infective elements which have lain dormant or more or less latent within the body, giving rise either to early or late sequels. These are, therefore, to be termed bacterio-toxic or microbic sequels. Of these we have examples in the various fevers, in diphtheria, influenza, malaria, and syphilis. We have seen that these may be manifested very variously in different organs and parts of the body. When affecting the nervous system they lead to central or to peripheral symptoms, according to the locality involved. With these we sometimes find associated sequels dependent on fresh invasion by microbic elements non-specific of the primal disease, but which are ever ready either within the system or outside of it to alight upon parts that have recently been rendered vulnerable by pre-existing morbid processes. These I term indirect sequels. We have seen that certain acute diseases sometimes reveal diathetic proclivities hitherto little marked or even dormant, as in the case of gouty or strumous habits of body, or which, as in the case of syphilitic taint, awaken long latent residues and so evoke revealing symptoms of unexpected character. These I term revealing sequels.

The debility and diminished tissue-resisting powers of the body induced by acute diseases or by exhausting influences and low state of health open the door to fresh invasion from within or from without, and in this way invite new sequels and often a succession of diseases. So-called "surgical scarlet fever" is, without doubt, an instance of true infection by that specific disorder to which patients are particularly prone after the shock and wound of an operation, owing to the vulnerability and susceptibility thus induced. Traumatism of many kinds is apt to be followed by either revealing symptoms of some constitutional tendency or taint. Thus, we have instances of puerperal septicæmia set up by invasion of varieties of specific and toxic microbes. We meet with cases in which tuberculosis awakens and rages after injuries to the head and other parts of the body, such as joints, and we have already noted the occurrence of erysipelas as an attendant on traumatism. We may take note of the diathetic and local determinants which materially affect the original incidence and the sequels of diseases. Weak points are attacked, areas of special vulnerability, and organs and parts whose functions are inherently inadequate—*loci minoris resistentiæ*. We perhaps too little regard the frailties of particular organs and tissues, frail by inheritance and prone to premature failure and decay, although adjacent to other and more robust portions of the frame of the individual, for likeness of organs and tissues goes by descent, as does mere likeness of features. Hence many puzzling conditions and surprises in the study of diseases. But the clinical physician must take note of such. Nervous sequels relate chiefly to neurotrophic disorders and neuralgia. Sequels due to chemo-toxic influences. Respecting many of these, we have to note the fact of symmetrical or bilateral nervous affections due to general impregnation of the system through the blood.

Complications of Diseases.—(a) Early, (b) late. Incomplete convalescence.

Sequels.—1. *Bacterio-toxic:* (a) Early, microbic, or germinal, with short latency; (b) late, microbic, or germinal, with longer latency; residual diseases; ultimate evolutions or manifestations of the original disease; (c) direct, specific of the primary disease; (d) indirect, induced by the primary disease, but due to fresh or secondary infections by new toxins—(a) already present in the body, or (b) newly introduced from without (mixed infections), hence succession of diseases. 2. *Revealing:* Determinative of manifestations of constitutional habits of body or of inherited or acquired specific (? germinal or particulate) taint. 3. *Nervous:* Neurotrophic, neuralgic. 4. *Chemo-toxic:* Arsenic, lead, mercury, silver, carbon monoxide, corrosive. 5. *Direct non-toxic:* Residual sequels, etc.; residual sequels probably determined to certain localities by tissue predisponency—(a) inherited, or (b) acquired by previous injury—*loci minoris resistentiæ*.

We have found that most sequels of diseases are an increased burden for the patient, but we have also noted that a few of them are even favourable and happy. The great

fact remains that the majority of sufferers from all manner of diseases are not the victims of sequels, and that for this majority the course of their maladies, when not directly fatal, is singularly and fortunately free from any important consequences. A study of the subject of the sequels of diseases cannot, however, fail to impress upon all of us who are actively engaged in treating patients during their illnesses the supreme importance of steadfastly regarding the patient, and not so much his disease, in all our therapeutic management. To conduct the patient prudently and safely through his troubles, to realise how he bears them and what they mean or may mean to him, to gauge his powers of tissue resistance and his reserves of vital power, to have regard to his mental condition and to all his particular environments, and to secure sound convalescence, is, as far as possible, to avert the worst consequences, early or remote, of the particular malady in progress. This, and no less than this, is the duty which lies before each one of us, and to carry it out effectually demands the best qualities both of head and heart that we can place at the disposal of our patients. And such qualities, I venture to say, have not been wanting in the lives and work of the majority of the great and good men who have adorned this venerable College and left us the legacy of their skill and of their characters, who have, no less, left us under the responsibility of maintaining here, as the physicians of England, the highest standards of work, of duty, and of professional honour. May we try to be worthy of our predecessors. We can hardly surpass them in any of these qualities.

It only remains for me to offer to you and to this auditory my best thanks for the kind attention given to me in this course of lectures.

ON SOME CASES OF CHRONIC NON-TUBERCULOUS PNEUMONIA AND THE CLINICAL VALUE OF INOCULATION EXPERIMENTS IN GUINEA-PIGS IN THE DIAGNOSIS OF PULMONARY TUBERCULOSIS.¹

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It occasionally happens that cases of chronic pulmonary disease are met with which in their physical signs have a close resemblance to tuberculous phthisis, but where careful and repeated examination of the expectoration fails to show the presence of any tubercle bacilli. In the majority of such cases which have come under my observation there has been evidence of an affection of the base of one or both lungs, whilst the apex has been free, and therefore there was presumptive evidence against the lesion being tuberculous. In spite, however, of the signs being over the bases rather than the apices of the lungs, and also notwithstanding the failure to find tubercle bacilli in the expectoration, I have frequently been in doubt as to whether the cases were really not tuberculous.

At the present day nearly every physician and pathologist will admit that the vast majority of cases of phthisis are of tuberculous origin; that it is extremely rare to meet with destructive processes in the lung, where there is a chronic history, and presenting the physical signs which the physician associates with the term phthisis, which are not of tuberculous origin; in other words, phthisis is almost, though not quite, an entity. There are, however, some cases where a chronic fibroid condition of the lungs is found which are not tuberculous. The majority of these, so far as my experience goes, are the result of acute pneumonia, in some cases of the croupous, in others of the catarrhal variety, where the inflammation has not run its ordinary course to resolution, but has gone on to the formation of fibrous tissue, usually associated with which is bronchiectasis, and more or less destruction of the lung.

It is possible that a few of these non-tuberculous fibroid

¹ Read before the Wigan Medical Society.