Original Articles.

FIBROID PHTHISIS.¹

BY FREDERICK C. SHATTUCK, M. D.

THE term phthisis, like the term Bright's disease, represents a group of pathological conditions, not, like the term typhoid fever, a single and invariable pathological condition differing in different cases only in degree and more or less accidental complications. This group consists, according to modern pathology, of three members, tubercle, pneumonic infiltration or exudation, and interstitial growth, the fibroid substitution of Bastian. It is true that in the majority of cases of phthisis we find two or all three of the members of the group coexistent and intimately associated with each other; but we do, on the other hand, meet with cases in which some one of the members is alone, or almost alone, represented, as in acute miliary tuberculosis, acute inflammatory phthisis, and cirrhosis of the lung or fibroid phthisis. It is with the latter that we are concerned to-day.

I would define it as a chronic disease of the lungs, the vesicular structure of which in the affected part or parts is destroyed and replaced by connective tissue growth, generally unilateral and associated with bronchial dilatation, running its course without notable fever or emaciation, but, in the long run, directly or indirectly fatal.

When the greater part or the whole of one lung is involved, great distortion of the thorax and dislocation of the heart and neighboring organs may result from the diminution in volume of the diseased, and compensatory hypertrophy of the sound, lung. The affection may be confined to one lobe, as in a case I saw some years since. The patient was a laboring man, who had been apparently healthy, but succumbed on the third day to an acute pneumonia of the right lung. At the autopsy the lower lobe of the left lung was found to be converted into a dense mass of fibrous tissue traversed by dilated bronchial tubes. Pleuritic adhesions are nearly always present, sometimes lax and slight, sometimes very thick and tough, even fibro-cartilaginous in appearance. In only one of thirty cases tabulated by Bastian was any fluid found in the pleural cavity. The tissue of the lung is very firm and resistant, and may even creak under the knife, and varies greatly in appearance, chiefly according to the degree of bronchial dilatation and the amount and character of the pigmentation, which latter is derived either from the blood or from the inhalation of particles of foreign substances, such as coal or iron dust and the like. The bronchial dilatations, not invariably present, may equal or even surpass a hen's egg in size, and are uniform, fusiform, saccular, or globular in shape. The contents may be purulent, muco-purulent, somewhat inspissated, or thin and excessively offensive, entirely independent of gangrene. Any patches of relatively normal lung which may remain near the indurated tissue are apt to be markedly emphysematous, as is often also, to a less degree, the sound lung. This is, partly at all events, the result of the frequent and long-standing cough. The most important and frequent change about the heart is hypertrophy and dilatation of the right cavities from mechanical obstruction to the pulmonary circulation. In the last stages of the disease this is

liable to be followed by general dropsy. Bands of white glistening fibrous tissue are sometimes seen passing through the lung, but a mottled gray and black coloration is more common, leading Addison to compare the appearance to that of Aberdeen granite, and Rindfleisch to employ the term "slaty" or "schistous" induration. Miners' lung may be uniformly black, as well as the fluid which is squeezed out from the cut surface.

I will not detain you long with a discussion of the pathology of the affection, in regard to which there has been so much controversy, and is to-day such wide difference of opinion. A striking illustration of this diversity is afforded in Reynolds's System of Medicine. Dr. Wilson Fox contributes an article on chronic pneumonia, and, with an interval of a few pages, Dr. Bastian succeeds him, and treats of precisely the same condition, equally at length, under the heading of Cirrhosis of the Lung, the term given by Sir Dominic Corrigan more than forty years ago. Fox denies, Bastian affirms, its existence as an independent disease. The former says that "nearly all the cases of pulmonary induration which have fallen under my observation have been connected with previous chronic pneumonia associated with the presence of tubercles;" the latter that, though chronic lobular pneumonia, tubercle, and the miliary process are frequently combined, there is no necessary connection between them, and each may and does exist by itself as an independent affection. According to Jaccoud the process is primary only in hard drinkers. The mode of production of bronchiectasis has also been a much-disputed point since it was first described. As connected with fibroid phthisis the two chief factors in the production are probably increased pressure within the tubes during attacks of cough, and diminution in the size of the lung beyond the limit provided for by contraction of the chest wall and displacement of organs. The ætiology is pretty clear except as to the question whether the condition is ever primary, and there is no doubt that it is very often secondary to bronchitis, pleurisy, croupous and catarrhal pneumonia.

The symptoms vary greatly in character and prominence with the area of pulmonary tissue involved, the absence or presence of bronchiectasis, and the stage of development reached by the affection. When it is limited to one lobe, symptoms may be nearly or quite wanting, but when it is extensive, cough, expectoration, and dyspnoea, especially on exertion, are usually well marked. The expectoration may be very profuse, notably after rising in the morning, and has often a faint, sickish, disagreeable smell. Fetid expectoration indicates either gangrene or retention and decomposition of the secretion. If there be marked bronchiectasis we may have the expectoration characteristic of that condition, namely, the discharge at intervals of large quantities of secretion, the patient during the interval being nearly free from cough and expectoration. Hæmoptysis is common, and apt to be frequently repeated and moderate in amount, unless it proceed from an eroded vessel in a cavity. Fox mentions a case in which it recurred seventy times in twenty-three years. Fever and emaciation are mostly confined to two classes of cases,—those in which the disease is the direct sequence of a croupous pneumonia which never underwent resolution, and the course of which is relatively short, and those in which tubercle and lobular pneumonia appear and reappear on the scene and

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bring the drama to a close. General dropsy from failure of the right heart has been already alluded to, and albuminuria is not uncommon. Laryngeal symptoms are absent, the appetite is usually good, and diarrhoea, when it occurs, is rather a complication than a true feature of the disease.

The diagnosis is often easy, though it may be attended with great difficulty. Our main reliance must be on the lack of correspondence between the rational signs and history and the physical signs. The latter are those of pulmonary consolidation and excavation, while the general condition of the patient often shows that we are not dealing with the ordinary form of phthisis. I saw at Schrötter's clinic at Vienna a remarkably plump and blooming young girl with flatness on percussion, bronchial voice and breath sounds and gurgling râles all over the base of one lung, and was assured by Schrötter that to his knowledge the girl had been in this condition for a number of years.

In unilateral cases with contraction it is not always easy to exclude chronic pleurisy, though the authorities state that it can usually be done. According to Walshe, curvature of the spine and drop of the shoulder on the affected side do not reach so high a degree in cirrhosis as in chronic pleurisy. Dilated bronchi may be met with in both affections, though they are perhaps more constant in cirrhosis. But the most conclusive evidence is a history of repeated hæmoptysis which points strongly to cirrhosis. A history of tapping excludes, of course, primary cirrhosis, and some value must, it seems to me, be attached to the fact that a patient has never been tapped. The confidence with which we now plunge a fine aspirator needle into almost any part of the body undoubtedly diminishes largely the number of undetected or doubtful pleuritic effusions. The history of the case alone will ordinarily suffice to enable us to exclude malignant disease. In the last stages of the disease, when secondary inflammatory or tubercular changes are present, difficulties in diagnosis may arise, but careful analysis of the history and the sequence of the symptoms will generally enable us to arrive at the true nature of the case.

The prognosis cannot be regarded as favorable, though it is of course much more favorable, as far as duration of life is concerned, than in cases of destruction of an equal amount of lung tissue by the common phthisical process. There are no means within our reach for restoring the vesicular structure, and the tendency of the disease is to progress more or less slowly and invade new territory, even if no more rapid process supervenes, or an intercurrent affection, as is often the case, carries off the patient. Fætor of the expectoration, whatever its cause, is an unfavorable symptom, as are also, of course, fever, emaciation, albuminuria, and dropsy.

It follows from the foregoing that treatment must be chiefly hygienic and symptomatic. The patient is to be guarded as far as may be from fresh colds, and a cold, when acquired, is not to be made light of. Fresh air and sunlight, woolen clothing, a generous diet, and the avoidance of severe exertion, which throws extra work on the already overtaxed heart, are of the greatest importance. Sedative cough mixtures may be required to procure sufficient sleep, and fetid expectoration may be combated by inhalations of carbolic acid and the like.

These are briefly the salient features of fibroid phthisis, and I will now venture to present a patient who

illustrates very well the part which connective-tissue growth plays in the cure—temporary though it may be—of ordinary phthisis. You have doubtless all of you seen similar cases, but they are not very common, and this particular case is so strongly marked that I think it will not be without interest.

J. A., forty years of age, was sent to me early in September, 1879, by my friend Dr. Bradford. His grandfather died of asthma, and two brothers out of nine have died of quick consumption. He served four years in the navy during the war, contracting typhoid and intermittent fevers. After his discharge, in 1865, was strong and hearty, and worked in a printing-office. In October, 1870, caught cold while house-moving, from exposure, and from this cold he dates his present troubles. Though he had persistent cough did not consult a physician for upwards of a year, at the end of which time he had night-sweats, and was so much run down that he sought advice. Was told by the physician that he had chronic bronchitis. Kept steadily at work, consulting his doctor now and then for the next two years, and was then told that he was in danger of consumption. Spat blood for the first time in 1872, since when has had attacks of hæmoptysis, recurring at intervals every spring except that of 1879. Is positive that he must have spat blood at least eighteen or twenty times, the last time in October, 1879. Between 1873 and 1877 worked off and on. Was laid up once for ten months, once for five, and alternately lost and gained in weight. Since the spring of 1877 has been able to do no work. His weight was at that time at its lowest point,—one hundred and eighteen pounds,—and he began to drink Medford rum, a quart of which a week was given him by a friend. Since then has gradually gained in flesh, and now weighs one hundred and seventy-one pounds, the greatest weight which he ever attained before his sickness began being one hundred and sixty-seven pounds. Between September 4 and December 2, 1879, gained ten pounds. Has had the opinion of many physicians during these years, and has been twice an inmate of the Boston City Hospital. All agreed in the opinion that he was in consumption. Gives a history at one time during his sickness of expectoration as from a large cavity. On leaning forward at times large quantities of secretion poured out of his mouth, leaving him comparatively free from cough and expectoration, until the cavity again filled and was emptied.

He now complains of dyspnoea, greatly aggravated by exertion, and cough with profuse muco-purulent expectoration, especially on rising in the morning. Is greatly troubled by the fact that his acquaintances refuse to believe him a disabled man, and intimate that he is shamming. Sleeps in an easy-chair by preference, though he can lie down if his head and shoulders are well raised. Is not affected by changes of weather or draughts.

There is decided flattening and deficient expansion of both upper fronts, and the integument over the supra-clavicular space is drawn inwards during inspiration. There is also marked dullness on percussion on the upper part of both lungs front and back, especially the right front and left back, with intensification of the voice sounds and very harsh but not bronchial respiration. Over the base of both lungs percussion is not remarkable, and respiration is more or less obscured by abundant coarse, moist, and dry râles.

There is hypertrophy of the right ventricle, as is

shown by accentuation of the pulmonic second sound. There is no marked cyanosis of the lips or face, but the terminal phalanges of the fingers are clubbed to an unusual, those of the toes to a less, degree; slight œdema of the ankles. Urine has a specific gravity of 1017; shows a trace of albumen, and under the microscope hyaline and finely granular and fatty casts.

To recapitulate: A vigorous man of thirty contracts bronchitis from exposure, neglects it at first, and after a period of between two and three years inflammatory phthisis develops and cavities form in his lungs. In the course of time the catarrhal process ceases to advance; active connective-tissue growth gets the upper hand, obliterates the cavities in great measure, and so contracts the volume of the lung that the chest walls fall in over the upper fronts. With the cessation of the inflammatory process the bodily weight comes up, but so large an area of vesicular and capillary structure has been destroyed that the breathing power can respond to only the most moderate calls upon it, circulation is seriously impeded, and secondary changes supervene in the kidneys from passive congestion. The cavities not being completely obliterated, secretion persists, is retained, and tends to permanent bronchitis and the establishment of new foci of lobular pneumonia and interstitial growth.

NOTE. During the second week in February, 1880, the subject of the above history became insane, and, threatening the lives of his family, was sent to the Danvers Asylum February 14th. February 20th he was found dead in his bed, and I was so fortunate as to secure his internal organs, through the courtesy of the medical officers of the institution. The organs were submitted to Dr. E. G. Cutler, who kindly makes the following report, which, it will be observed, bears out the diagnosis fully. The dyspnoea was not greatly aggravated during the last weeks of life:—

AUTOPSY

about thirty hours after death. Both lungs were very firmly adherent at the apices, slightly so over portions of the bases. The upper lobes of both lungs were greatly shrunken, especially in the upper halves, and very dense to the touch. On section, the vesicular structure of these portions was seen to be replaced by connective-tissue growth with marked peribronchitis and a number of bronchial dilatations, the largest of which was about the size of a hickory-nut. These changes were most marked near the anterior aspect of the right and the posterior aspect of the left apex. There was considerable emphysema of the lower portions of the upper lobes of both lungs, and general chronic bronchitis, but no foci of lobular pneumonia or cheesy nodules. The left lung was also more or less œdematous in portions, and the main branch of the left pulmonary artery contained an extensive embolus, partially broken down and slightly adherent to the wall of the vessel. The right ventricle was markedly dilated and hypertrophied, the tricuspid valve admitting four fingers with ease, and the right auricular appendage contained an old thrombus similar in character to the plug found in the pulmonary artery. The left heart was in every way normal. The kidneys were somewhat cloudy, but there was nothing especially remarkable about any of the other organs or the brain.

— The distinguished Lockart Clarke is dead.

RECENT PROGRESS IN INSANE ASYLUM MANAGEMENT.

BY WALTER CHANNING, M. D.

A GLANCE AT INSANITY AND THE MANAGEMENT OF THE INSANE IN THE UNITED STATES.¹

DR. EARLE, in this paper, read at the Conference of Charities in September, 1879, goes again into the question of the curability of insanity. Pursuing the same line of argument as in previous papers, he first shows the fallacy of statistics collected in insane hospitals during the last fifty years. From 1837 to 1847, some of the most prominent men in the specialty, such as Woodward, Bell, Ayl, Brigham, Kirkbride, Stribling, Ray, and McFarland, were in charge of insane hospitals. To the enthusiasm of these men we owe the many excellent results obtained in the treatment of insanity. "Such a body of men, acting at a time in which the enterprise for the insane was in its most plastic and impressionable stage, could not fail to leave upon it the lasting evidences of their ability." The zeal and rivalry among the various superintendents gave rise to false statistics. Dr. Todd, in 1827, got a percentage of recoveries of over ninety-two, but these were founded on the recovery of twenty-one out of twenty-three cases; and Dr. Woodward, in 1836, using the fallacious method of calculating recoveries on discharges, of 84½. During the past forty years the percentage has fallen, and in no series of one thousand cases has even a percentage of sixty-six been obtained.

The time is coming when an immense number of chronic insane must be provided for, and we must have asylums peculiarly adapted for them. The greatest objections to these institutions, namely, *danger of imperfect oversight and inspection*, has been done away with. The Willard Asylum is recommended as a model for such institutions.

REPORTS OF MASSACHUSETTS STATE INSANE HOSPITALS FOR 1879.

Dr. Earle continues his researches into the statistics of insanity in his report of the Northampton Hospital for the year 1879, under the heading of Studies Relative to the Curability of Insanity. In this he refers to a table copied from the report of the Worcester Lunatic Hospital for 1843, and republished in connection with a memorial by Miss Dix, for the purpose of showing the remarkable advantage, pecuniarily, of the treatment of insanity in its early stages. This table presents two columns, or series of cases, twenty-five in each. Those of the first column were chronic and incurable; those in the second were recent, and had been discharged from the hospital in the course of the year, recovered. It occurred to Dr. Earle that it would be interesting to follow the subsequent history of the twenty-five recent cases which recovered. In summing up the results which he obtained, he finds that only seven of them did not have a second attack, and eighteen had more than one attack. As so many are still living it is impossible to state the result in regard to the number dying insane, but already seven have died insane. In this connection Dr. Earle gives the well-known formula of Dr. Thurman, "that of ten persons attacked by insanity five recover and five die, sooner or later, during the attack. Of the five who recover not more than two remain well during the rest

¹ By Pliny Earle, M. D.