CASE OF
EXTENSIVE
CARCINOMA OF THE LUNGS,
WITH SOME PRACTICAL REMARKS.

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It is well known that carcinoma is found infesting the lungs under two very different conditions. It may occur as a primary disease of the parts within the chest, commencing in the anterior or posterior mediastinum, or in the substance of the lungs ; and it may appear only as a secondary affection in the lungs, the seat of primary development being in some viscus, or part of the body situate external to the chest. The extent to which the lungs are implicated in this second class of cases, is comparatively slight ; the carcinoma is deposited in the substance or upon the pleural surface of the lungs, causing little or no change in the contiguous parts, and not giving rise to any pulmonary symptoms of importance.

The rarity of primary cancerous affections of the lungs, the serious symptoms which occur during their progress, and the difficulties of their diagnosis,

appear to me sufficient reasons for making known any facts which may enlarge our knowledge of such formidable diseases. I am more strongly incited so to do, by the following judicious remarks of Dr. Graves,* prefixed to the narrative of a nearly similar case to that which I am about to detail. Dr. Graves suggests, that rare diseases should not be looked upon as mere matters of curiosity, but should be attentively studied with the view of enabling us to recognize the true nature of similar cases, when they occur again. If the history of diseases, at present reputed to be extremely uncommon, were published by all those who meet with them, facts, now apparently single and insulated, would serve as nuclei round which, future experience and observation might cluster together similar facts in groups sufficiently numerous to illustrate and explain each other.

In the spirit of the foregoing remarks, and convinced by experience of the mischief which sometimes results to patients from the treatment of malignant formations in the chest, when they are mistaken for ordinary diseases of the respiratory organs, I am induced to bring before the notice of the Fellows of the Royal Medico-Chirurgical Society the following case of extensive carcinoma of the lungs.

Charlotte Bain, aged 20 years, was admitted under my care into St. Bartholomew's Hospital on the

* Clinical Medicine, p. 792.

22nd April 1843. She stated that she was married, and had enjoyed good health until six months ago, when she first suffered from pain beneath the sternum, loss of appetite, and cough, with some expectoration. She was delivered of her first child after a protracted labour, three months ago. She regained her strength, but dyspnœa, cough and swelling of the cervical glands came on, and these symptoms were soon followed by want of sleep, emaciation and perspirations. A month previous to her admission, she was attacked with hæmoptysis: the sputa at first consisted of mucus streaked with blood and clots of blood, but latterly they had become more uniformly bloody, and of a peculiar pink colour. She had continued to suckle her child, which was healthy, until the present time.

Upon her admission into the hospital her condition was as follows:—The face pallid, rather full and œdematous, with a dark areola around the eyes; the lips rather livid; the alæ nasi acting violently with each inspiration: respirations 40 in a minute; the pulse 132, rather small, bounding, but soft, and increased to 160 when she assumed the sitting posture in bed; the decubitus on the back, but inclining to the right side.

She complains of weakness, pain between the shoulders, and gnawing pain in the epigastrium; also of shortness of breath, and of frequent prolonged paroxysms of ineffectual cough, which are followed by urgent dyspnœa amounting to panting; the sputa are scanty, glairy, intimately blended with blood,

and of a uniform pink colour, resembling currant-juice ; the glandulæ concatenatæ on the right side of the neck are swollen, hard and tender, with some distended veins passing over them. The glands on the left side of the neck are also slightly enlarged, and the left external jugular vein distended. The tongue clean and moist, the abdomen full, soft and rather tender on pressure in the umbilical region ; the bowels open twice daily ; the catamenia had not appeared since parturition.

Upon auscultation, a clear exaggerated respiratory murmur, and upon percussion increased resonance, were audible all over the left lung. On the right side of the chest, on percussion, there was a diminished resonance in the upper part, while below the third rib, in front, and beneath the spine of the scapula, there was complete dullness, and this extended quite down to the right hypochondrium. A feeble respiratory murmur was audible in the upper part of the right lung: the expiration being prolonged and accompanied by a modification of sibilus resembling a chirp. A feeble respiratory murmur of a similar character was audible to some extent along the right side of the spinal column, and bronchial or tubular breathing with chirping sounds could be heard beneath the mamma, and in the lower axillary region. The voice was so weak and husky, that no vocal sounds nor vibrations could be detected. The heart's sounds were natural, and not transmitted beyond the præcordial region.

Such was this woman's condition upon her admis-

sion, and the diagnosis formed at the time was, that she suffered from extensive malignant disease of the right lung, and the clinical clerks were directed to watch her with more than ordinary care. She was allowed a nutritious diet of beef-tea, eggs and port wine, and occasional doses of the acetate of morphia with gentle aperients were also prescribed.

It may be fairly inquired, upon what grounds this diagnosis of malignant disease of the right lung was founded, and I must here confess that while this case was under my observation (April 1843) I had not had the advantage of perusing an able article on cancer of the lung in the *British and Foreign Medical Review*, published in that same month, nor the very instructive chapter on this subject in Dr. Walshe's work on *Disease of the Lungs*,* otherwise many omissions in the history of the foregoing case would have been supplied.

The general and local symptoms clearly indicated some serious disease of the lungs. The physical signs proved that the left lung was performing its functions in excess, and that those of the right lung were seriously impaired. The auscultation and percussion also informed us that the air only entered the right lung to a very limited extent, and did not pass beyond the bronchial tubes. These signs might be accounted for upon the supposition of extensive consolidation of the lung, or of pleuritic effusion causing compression of the lung.

* London, 1843.

The extreme dullness on percussion, the absence of all vocal phenomena, and the constant decubitus on the right side, seemed to support the supposition of pleuritic effusion. But opposed to this conclusion were the presence of bronchial respiratory murmur in the axilla and hypochondrium, where the dullness on percussion was greatest, and the absence of ægophony and of loud bronchial breathing and bronchophony along the right of the spinal column. There were also present, physical signs, which when taken together were inconsistent with consolidation of the right lung, viz., the extreme dullness on percussion, the very feeble bronchial respiratory murmur, the absence of bronchophony or vocal vibrations, and the want of transmission of the heart's sounds to the right of the sternum. Hence the diagnosis of some anomalous disease of the right lung was formed; and when the peculiar aspect of the woman, the distressing dyspnœa and cough, with the singular currant-juice sputa, the enlarged cervical glands, and the history of the case, unlike that of pneumonia or pleurisy, were all duly considered, the opinion was hazarded that she was suffering from malignant formations in the right lung.

About five or six days after her admission, the glands on the right side of the neck rapidly increased in size, occasioning pain and additional distress to her breathing by their pressure on the trachea; the face became more œdematous; the right arm and mamma very anasarcous, and at the same time some enlarged and painful glands were disco-

vered in the right axilla. The hurried respiration, dyspnœa, frequent pulse, cough, and bloody sputa, remaining unaltered.

Some leeches and fomentations applied to the swollen and painful glands in the neck afforded some relief, and rest was obtained by repeated doses of morphia. At this period the patient was examined by some medical friends, who inclined to the opinion that the disease was chronic pleurisy, terminating by copious effusion. This opinion was supported by the symptoms already detailed, especially by the posture of the woman on her right side, by the extensive dullness on percussion, and by the results of a measurement of the chest. The girth of the thorax beneath the mamma was $32\frac{1}{2}$ inches, and it was found that the right side exceeded the left by $1\frac{1}{2}$ inch.

Her distress was so great from urgent dyspnœa and restricted posture, that it became necessary to consider the propriety of paracentesis thoracis, if her symptoms really arose from pleuritic effusion. From the enlargement of the right side, and the increasing œdema of the face, right arm and mamma, I considered it highly probable that a passive serous effusion had taken place into the right pleura, but the existence of a coarse bronchial respiratory murmur in the lower axilla, and along the right side of the spine, quite down to the base of the lung, assured me that the lung had not collapsed, but was in contact with these parts of the walls of the thorax. No attempt was therefore made to give relief by the

operation. During the remainder of her life no material change occurred in the symptoms, and she sank on the fifteenth day after her admission into the hospital.

The body was examined nine hours after death. The surface of the corpse was remarkably pallid, and the limbs rather rigid: the face, chest, breasts, right arm and vulva very œdematous: the left arm and lower extremities emaciated. The right side of the chest was manifestly larger than the left. Upon removing the sternum, the pericardium appeared rather more to the left of the mesial line than normal: it contained about $\frac{3}{4}$ iv of limpid serum; the heart slightly contracted, healthy in structure, containing some coagula in its cavities. The left pleura and lung presented nothing remarkable.

The right pleura was distended by Oiv of an olive brown coloured serum. In spite of this large collection of fluid, the right lung had not collapsed, but stood out firm and prominent into the pleural cavity. The upper lobe of the lung was not much altered: its substance was tough and crepitating on pressure, the middle and lower lobes when handled felt solid. A white lobulated tumour of a dull white colour, something like a mass of suet, projected from the middle lobe of the lung; it was somewhat yielding on pressure, and in close apposition with the right side of the pericardium. Towards the root of this lung was another similar tumour, which forced the lung upwards from the spinal column. The

middle lobe was intimately connected with these tumours, and much resembled them in external appearance. The pleura covering the lower lobe was rough and dark-coloured, with enlarged, congested, varicose blood-vessels, ramifying on the surface.

When sections of the middle lobe and tumours were made, they appeared one continuous mass of carcinoma. Their substance was mostly of an uniform dull white colour, and rather soft; in some parts the substance was pinkish or red, as if vascular, and in other points, especially in the situation of the bronchial glands, the cut surfaces were streaked with black lines and spots, and divided into oval segments. The surfaces yielded on compression a white creamy fluid in considerable quantity.

The superficial parts of the lower lobe to a depth varying from $\frac{1}{2}$ inch to 2 inches were converted into a dark brownish friable substance, minutely studded with white spots and streaks and patches of an uniform white matter. Some bronchial tubes in different parts of this lobe when cut across, were found distended with thick yellow tenacious pus, giving the appearance of small abscesses. The right bronchus at its entrance into the lung was compressed, and much obstructed by portions of the tumour having protruded into its cavity: these projections had broad bases, and were apparently uncovered by the bronchial mucous membrane.

The right pulmonary veins were also compressed by the tumours, and at a short distance from the heart, one of them was nearly filled by four or five

white, shining, softish, pyriform masses hanging towards the auricle by long slender pedicles attached to the lining of the vein: beyond these the vein entered the masses of carcinoma, and was so contracted that it would just admit a probe. The upper part of the anterior mediastinum was occupied by a tumour, having similar characters to those found in the right side of the chest. The enlarged cervical glands on the right side presented similar appearances. The right carotid artery and internal jugular vein were reduced to less than half their usual size. Many other veins in the vicinity of the tumours were compressed, and some contained coagula. The mammary glands were large, firm, and yielded on incision and compression, a white fluid like milk.

The peritonæum contained a small quantity of fluid; the liver was considerably depressed by the descent of the diaphragm. The stomach, intestines, mesenteric glands, liver, spleen, kidneys, uterus and ovaries were examined, but nothing of importance was detected in those parts.

As these cases of extensive carcinoma in the lung undoubtedly present a train of symptoms having many analogies with those of hepatisation of the lung, or of copious pleuritic effusion, and as some of these cases have been treated with blood-letting, some by mercurials and blisters, and others by the operation of "paracentesis thoracis," it may be worth while

to advert to the principles on which the diagnosis of carcinomatous infiltration of the lung is to be formed.

There is scarcely any disease of the respiratory organs, of which our knowledge has advanced more rapidly than that of carcinoma of the lungs. Laennec, in his celebrated *Treatise on Auscultation*, (2nd Edition, Paris, 1826) gave a very detailed and complete description of the anatomical characters of encephaloid tumours in the lungs, but he did not venture to form a diagnosis of their presence in the lungs by the aid of auscultation. He merely states, "the stethoscope ought to inform us of the existence of encephaloid tumours in the lungs, when they form large masses, which is usual in this kind of new formation."

Andral, in the "*Clinique Médicale*," (vol. ii., Paris, 1833,) has detailed cases of encephaloid tumours in the lungs, but has not attempted the diagnosis of their existence. He remarks, "That in such cases, there usually exist similar formations in other organs of the body, and no characteristic symptoms have made known the presence of these morbid growths in the lungs during the life of the patient."

In 1833, the late Dr. Sims contributed a valuable paper to volume xviii. of the *Transactions* of this Society, "On malignant tumours connected with the heart and lungs." The details of two cases, and the observations appended to them, certainly

called attention to this rare affection, and improved our knowledge on this subject.

The important work of Dr. Stokes, on Diseases of the Chest, published in 1837, still further advanced our knowledge; but even at this period, that eminent physician candidly confessed, "That neither in cancerous transformation of the lung, nor the mediastinal tumour, could we apply any direct diagnosis; and that in a case seen for the first time, and in which no external cancer existed, there were no means by which we could determine the point." In 1842, Dr. Stokes published in vol. xxi. of the Dublin Medical Journal, an elaborate article on the Pathology and Diagnosis of Cancer of the Lung and Mediastinum. He has there given an analysis of all the most important published cases of this affection, as well as the details of some others, which had fallen under his own observation, and to this memoir Dr. Stokes has added very ample rules, upon which the diagnosis of malignant formations should be founded.

Lastly, no one has treated this subject with more ability and completeness than Dr. Walshe, in his work "On the Physical Diagnosis of Diseases of the Lungs"—London, 1843.

I shall now proceed to compare the general symptoms and physical signs manifested in the progress of the foregoing case, with those which are described by the best authorities as belonging to carcinoma of the lungs. Dr. Walshe has enumerated

certain external appearances as indicative of the presence of malignant structures in the lungs, and which were very manifest in the foregoing case. These are, (1.) prominence of the eye-balls, which, with a swollen or bloated state of the face and throat, gives the patient the appearance, to a certain extent, of a strangled person. (2.) Œdema of the affected side, corresponding arm and face. (3.) Enlargement and extreme congestion of the cervical and thoracic veins. (4.) Dysphagia. (5.) The existence of tumours upon the surface of the body. The peculiar characters of the sputa in these cases have been forcibly delineated by Dr. Stokes and Dr. Hughes, and described “as consisting of blood so thoroughly incorporated with serous fluid as to resemble red or black currant jelly.” The mucus expectorated by this woman presented similar appearances, and was rightly compared to red currant juice. In many of the recorded cases of carcinomatous disease of the lungs, we find it reported that hæmoptysis to a considerable extent had occurred at an early stage. This symptom is likely to mislead, from the universally-received opinion that it is usually the harbinger of incipient tubercles in the lungs, but in truth this hæmorrhage occurring upon the appearance of carcinoma in the lungs is only in accordance with what we remark when the same malignant disease attacks the stomach, uterus or rectum. The inspection and measurement of the chest are said greatly to assist in forming a diagnosis between genuine cancerous infiltration of the

lung, and the existence of tuberos masses of cancer in the lung and pleura. In the former, it is maintained that a dilatation of the affected side does not exist, while in the latter, if the masses be large, it generally does. It appears to me that this distinction cannot be rigidly maintained, because carcinomatous infiltration of the lung is so frequently associated with tumours in the pleura and mediastinum as in the case just related ; and, besides, if the disease be of some duration, pleuritic effusion may also be anticipated, which necessarily alters the dimensions of the affected side, and modifies many of the most important physical signs obtained by inspection, auscultation and percussion. The presence of a large quantity of fluid in the right pleura of my patient, occasioned dilatation of the side ; it also greatly diminished the intensity and extent of the bronchial respiration, and bronchophony usually present in carcinomatous disease of the lung, and it likewise prevented the transmission of the heart's sounds to the right side of the thorax. Lastly, in the foregoing case the pressure of an enlarged gland on the trachea deprived us of most of the phenomena to be derived from the voice.

From a comparison of the history of this example of extensive carcinoma in the lung and mediastinum, with those detailed by the several authors I have cited, it may be stated that when a patient is manifestly suffering from severe affection of the respiratory organs, with physical signs, offering close analogies to those detected in consolidation of

the lung, or in copious pleuritic effusion, and yet presenting anomalies not compatible with either of those morbid conditions; and when, in addition, the history of his case does not accord with that of tubercular infiltration of the lung, nor of chronic pneumonia, nor of pleurisy, and he at the same time exhibits those external characters so carefully enumerated by Dr. Walshe, together with the currant juice sputa, we may safely conclude that he is affected with extensive formation of malignant disease in his lungs. Although we must confess that such disease of the lungs is beyond the power of medical art, still the knowledge of the existence of it may save a patient from much unnecessary suffering. A course of mercurials carried on to ptyalism, repeated local abstraction of blood, long-continued counter-irritation over the affected side, can only impair the vital powers without arresting the local complaint; and it is to be feared that the death of patients has sometimes been accelerated by the operation of "Paracentesis thoracis," performed to give relief to a suspected pleuritic effusion. These considerations almost induce us to subscribe to the sentiment prefixed by Heyfelder * to his "Chapter on Cancer of the Lungs,"—" *Optima hic est medicina, medicinam non facere.*"

* Studien im Gebiete der Heil-wissenschaft, Bd. i. S. 52.