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## The Diagnosis of Chest Disease

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### Abstract

This is not an article on the latest means available for the diagnosis of chest diseases, but simply a consideration of history taking and of signs and symptoms. Medicine is without meaning unless we think in terms of patients. It is by developing our powers of observation and interpretation while we are in contact with our patients that we learn medicine, rather than from books and articles.

Hippocrates is our great master of the art of inspection—he stands for the fundamental importance of seeing clearly. To-day if we read his reports of 2,400 years ago we can often make an almost instantaneous diagnosis. Descriptions which cannot be bettered are the squeaking of leather for a pleural friction rub, or the boiling inside the chest of pulmonary oedema. In the time of Hippocrates as much as now thoroughness in examination produces more correct diagnoses than sudden flashes of brilliance.

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# THE DIAGNOSIS OF CHEST DISEASE

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By J. H. TURNER

This is not an article on the latest means available for the diagnosis of chest diseases, but simply a consideration of history taking and of signs and symptoms. Medicine is without meaning unless we think in terms of patients. It is by developing our powers of observation and interpretation while we are in contact with our patients that we learn medicine, rather than from books and articles.

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Pathology did not become respectable until well after the Renaissance and even then doctors were rather slow in making an attempt to correlate signs and symptoms with their pathological observations. Laennec did more than any other in this respect. In 1819 he published his treatise on Mediate Auscultation, and 7 years later there was a second edition. Between these there is a great difference—in the first he used the analytical method describing the different signs and their corresponding lesions, but in the later edition he used the reverse—each disease here is described in diagnosis, pathology and treatment, this in fact became the first important book on chest disease. Here we have a synthesis to give the picture of a diseased patient.

We too should describe what we see and hear, remembering that the object of the exercise is not just to say that we hear a patch of bronchial breathing, but to come to a definite diagnosis. What is wrong with this patient? Not—What do you find in the patient's chest?

“Listen—by this command I do not mean to stress the importance of auscultation and percussion, but to listen to the patient as you hear his history.” These are the words of Lilienthal when he was describing the diagnosis in empyema, but they can be applied to a much wider field. It surprises us to recall that not long ago physicians had to make their diagnoses without the aid of specialized techniques. Naturally they made many mistakes, their diagnoses were often late ones, but they took more pains with history taking and what is also important they saw the patient as a person and not as an appendage to a chest. Writing with a very guilty conscience I would say that we do not pursue the symptoms far enough—we are content to write down “breathless on exertion” without further analysis of this, and consequently we miss much of clinical importance.

Ideally, alas not always under the National Health Service, the doctor will know his patient well, he can take time to observe the appearance, the quality of a cough, the nature of sputum, the character of breathing and so forth. Very often the diagnosis is not made on the presence or absence of one specific symptom or sign but by the use of associated impressions, often

drawing from past experience. The physician has frequently made the diagnosis before even touching the chest and as students we may be entitled to suspect that the crepitations which the chief knows should be present are not really audible at all.

Certain general points can be mentioned about history taking. A recent history is much better told than one which stretches over many years, an illness of acute onset is also better described because the events are fresh in the patient's memory. In taking a history some time after the onset of an illness, not only may the initial events be poorly remembered but the patient may not even be aware of any ill health until he has been cured. These are obvious points but like all such things we are liable to forget them.

On first going in to a medical ward, we have no conception of what conditions are most likely in any particular patient—our differential diagnosis includes the whole list in the text-book. Let us take chest disease in different age groups and to begin at the beginning we shall take the newborn infant. The respiratory movements of the newborn are predominantly diaphragmatic with but little assistance from the intercostal muscles—if you see the latter working hard then your guess of there being severe respiratory difficulty is probably correct. Percussion is of negligible value and auscultation is very difficult for early breathing is so shallow that you are lucky if you hear any vesicular sounds. When the baby cries you won't hear any breath sounds at all and for the whole of the early neonatal period crepitations are quite normal as the pulmonary alveoli are gradually inflated.

Therefore in the diagnosis of respiratory infection one has to look out with the chest altogether. A history of the labour will help—a long labour with early rupture of the membranes and foetal distress will suggest that the foetal inspiratory gasps sucked infected liquor into the lungs. The signs in the infant are general ones—disinterest in feeding, apathy, and cyanosis. There need not necessarily be any raised temperature or a marked leucocytosis. To distinguish a pneumonia from the development of pulmonary hyaline membrane can be very difficult. In the latter you have typically a premature infant and a slightly different clinical course. X-rays are not much help at this time of life. It would need a very brave radiologist to distinguish areas of consolidation from areas of residual atelectasis.

Stepping forward a few weeks the next serious lung disease is staphylococcal pneumonia. Here again examination of the chest can be unconvincing but the systemic upset can be very real. This is a rapidly progressive condition, the organisms are very virulent, often drug resistant, and complications are frequent. In the infant there is every likelihood of an abscess rupturing into the pleural cavity and forming a pyopneumothorax.

There is one childhood disease which as a general practitioner you will often see. You are called to see a child and find him very ill, you may notice conjunctival haemorrhages, you ask the mother why he is in the dark, you hear that feeding provokes an attack of coughing with cyanosis, retching and vomiting. This is all typical of whooping cough which is the most serious infectious disease of the child before school age mainly due to the complications of bronchopneumonia and residual bronchiectasis.

Consider now a young person in his late teens. On getting up out of bed he notices a pain in the chest, particularly around the scapula. He is surprised by this but carries on normally. During the course of the day he is rather breathless and someone may comment on pallor or cyanosis. In all it may take some time before a doctor is called and the diagnosis of spontaneous pneumothorax will soon be obvious.

Post-operative complications are frequently pulmonary. We may all know about calling out for the bedpan, but in the patient who has recovered from

the wiles of the surgeon and anaesthetist we may fail to notice pulmonary collapse before infection supervenes.

The three big lung diseases of adult life are the pneumonias, tuberculosis and bronchial carcinoma. Bear in mind constantly complications of the pneumonias—pleurisy, empyema, lung abscess, collapse and remember that pneumonia is not a complete diagnosis until you know what caused it. Recurrent pneumonia may be indicative of an underlying bronchiectasis, or again a pneumonia which fails to resolve on chemotherapy may indeed be a virus pneumonia but it may also be due to an obstruction caused for example by carcinoma or by a foreign body.

At the other end of life as the recent Scottish tuberculosis campaign has reminded us, an upper lobe fibroid tuberculosis with emphysema can often masquerade as a simple chronic bronchitis. In the very old the patient is often dead before you realise that he has had a hypostatic pneumonia. We almost come to regard basal crepitations as physiological in the elderly. With this type of basic clinical knowledge we already approach the patient with a prepared mind and further examination is much easier.

The first clinical teaching we get is a training in physical diagnosis. Naturally enough we start with gross departures from the normal and we study these changes in isolation. However this method has severe limitations for it applies to the advanced stages of disease and further we are apt to forget that physical signs are signs of lesions and not of diseases. When we open a book on physical diagnosis and compare that with our own clinical observations and again with what we see our seniors doing in their clinical work we soon realise that many of the physical signs written of in the books are unconvincing and the value of others is debatable. It is safe to say that judging by the use to which the physician puts into practice the signs as described in the books it is a waste of effort to learn some of them. It is remarkable how quickly most physicians manage to forget many of the standard signs. This is not to deny that these had their period of clinical usefulness but many have been superseded in the wards but remain in the books. It is noticeable that when surgery advances into a new field then we find that physical diagnosis has to be correspondingly more accurate than it was before. Whereas the physician of 20 years ago was content with the label bronchiectasis, now through the use of bronchography the dilated bronchi can be, and should be, located precisely and the stimulus to this advance has come from surgery. Now more than ever before, we need to diagnose lung disease early, and physical examination needs to be even more precise, but with the changing emphasis on diagnosis we must alter our attitude to the significance of individual signs—above all they are a means to an end and not an end in themselves. They cannot be isolated from their context—the patient.

All this can be illustrated from a short consideration of the early diagnosis of bronchogenic carcinoma. Here the most important factor is an awareness of its possible presence, for this diagnosis is no longer tantamount to signing a death-warrant. There are no diagnostic early features. It is no great feat to diagnose this condition in a wasted cachectic patient for at this stage the patient is already doomed. It is important to realise that almost any chest disease can be simulated by carcinoma, and we cannot afford to waste time in coming to a diagnosis. Regrettably even the first indication, e.g. a cerebral metastasis may be too late, and we must be most on guard when dealing with symptoms like persistent cough, vague chest pain, repeated colds, slight haemoptyses or simply the patient who says, "I've never felt the same, doctor, since that attack of flu last winter." Symptomatology is often more important than physical examination for this latter is here most unreliable. A negative examination means nothing, though help may be

obtained from unilateral stridor or areas of dullness. Too often as with the palpable lymph glands in the neck it is too late.

Radiology is our chief help and perhaps you may suspect that every patient with mild chest symptoms should have an X-ray. In Britain this would not be practicable for with our much-loved climate, our homes, our tobacco and our smoke, respiratory diseases are far too common. In selecting cases clinical judgment will have to be used and this is only learned from practical experience, including our mistakes.

In conclusion here are 3 short quotations—the first is from Leslie Stephen who says—“The hardest of all feats is to see what lies before our eyes.” The second is from the Bible—“An evil and adulterous generation seeketh after a sign; and there shall no sign be given to it.” And ending on a more optimistic note the third is a description of Sydenham by our own Dr. John Brown. “Human life was to him a sacred, a divine as well as a curious thing, and he seems to have possessed through life in rare acuteness, that sense of the value of what was at stake, of the perilous material he had to work in.”

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