

PNEUMONITIS*

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In the primitive animistic days of mankind names had a magical quality: to name a thing was to gain power over it. We have seen the same sort of thing in medicine: the physician who first saw a patch of redness of the skin and named it erythema may well have felt that he knew much more about the condition than the poor fellow who could only say that the skin was red. "Pneumonitis" sounds more weighty than, say, "inflammation of the lung," as though it had more body, more content in it. There is the point—what content has it?

The first dermatologist who looked at red nodules on the legs and called the condition erythema nodosum was merely saying what he saw in another way; but now a whole body of knowledge about streptococcal and tuberculo-protein sensitivity, a growing content of fundamental pathology, has already filled out the term into something which, if not yet final and complete, would nevertheless startle the early dermatological descriptionist. The truth about "pneumonitis," however, is that so many different people put a different content into the term that the very word breathes confusion and muddle. The main reason for this is that nowadays we are not interested enough in post-mortems. I find that the word comes easily to the lips of a physician, surgeon, or a radiologist with a radiograph in his hands; never yet, in my experience, to a first-class pathologist with the lung exposed on his slab. Perhaps in this discussion we shall be fortunate in clearing up some of the muddle.

First of all, let me suggest that we do not waste our time on logomachies—etymological quarrels about whether the word "pneumonitis" is better than "pneumonia," or better than "pulmonitis," and so on. Secondly, I do not propose to review formally and in detail the literature of the conception of pneumonitis. It will only bore you, as it did me when I pursued the subject: much of it is flat and unprofitable. Later, however, I shall have to refer to some aspects of it by way of illustration.

TWO IMPORTANT QUESTIONS

I pass on to suggest that there are two cardinal questions to which we might devote our attention. (1) Is the term worth retaining for 'convenience' sake? (2) What sort of valid content can we put into it, if we do use it? The second

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question is the important one: the answer to the first depends largely on the answer to the second.

What, then, do we or might we mean by pneumonitis? Sometimes there are obvious errors in the use of the term; the misinterpreting, for example, of a radiographic shadow of partial collapse of the lung or of a haematoma of the lung. Nor will we confuse the issues by calling a developing or a resolving pneumococcal pneumonia "pneumonitis" on the strength of a radiograph without a clinical history or picture. Errors of this kind are made, but they need not detain us.

Let me turn to another illustration. Here, shall we say, is a patient who has had a bullet wound of the lung. The radiograph of the chest shows a thin band of shadowing, in the middle of which is the track of the missile. There has been a low-grade infection of the linear track with a resulting surround of mild inflammation. It is not a pneumonia or bronchopneumonia in the sense in which we understand the terms. Shall we, then, for convenience call it a "pneumonitis" around the track of the missile?

Suppose, on the other hand, that the track is not infected: instead it is marked out by a small extravasation of blood, with a zone of reactionary exudate around it. The radiograph is the same; but this time it represents a mild irritative reaction to a foreign body, haemoglobin, lying in the track, with oedematous fluid and a few mononuclear cells. "Pneumonitis" is not at all a helpful term whereby to describe this lesion.

In both instances the clinician has the same, or very much the same, facts on which to base his diagnosis; very often he cannot know which of these alternative pathological conditions is present in any particular case. I suggest, then, that if he wishes to use the word "pneumonitis" as a convenient descriptive term he ought to put it in inverted commas. The inverted commas should be there to remind him and others that this is not a diagnosis, in the sense of a clear-cut pathological picture corresponding to clinical and radiological observation. Those inverted commas represent the appealing humility of the clinician and of the radiologist confronted by the mystery of the universe.

VARIOUS FORMS OF SO-CALLED PNEUMONITIS

Let us take a quick glance at some other forms of so-called pneumonitis which have been described. In the diagnosis of all of them the radiograph takes a large rôle. There is, for example, the so-called *radiation pneumonitis* which may occasionally follow *x*-ray treatment of mammary cancer. It represents the reaction of the lung to a deep-seated *x*-ray burn—a catarrhal inflammation which desquamates the epithelium, thickens the alveolar walls, and determines, later, an intense fibrosis. There is the *rheumatic pneumonitis* (Rich) and similar related anaphylactic or sensitivity reactions, characterized by focal capillary damage, exudation of fluid and leucocytes into the alveoli and tissue spaces, and focal necrosis of the alveolar wall—a condition which might be compared with such

cutaneous lesions occasionally seen in rheumatic fever, as urticaria, erythema, or purpura.

There are other forms of so-called "pneumonitis" which interest the surgeon in particular, as being either the initial stage of pulmonary abscess or a complication of abscess, or even an abortive stage of abscess. Here it is not only the radiologist who can demonstrate his shadows; the surgeon also can tell of mushy, friable, suppurating lungs with no clear-cut abscess cavity; or of the later stages of imperfectly treated abscess, when the lung is a rubbery mass of fibrosis, interspersed with tiny suppurating cavities as numerous as those in a Gruyère cheese. He may, and often does, call the first "pneumonitis" or "suppurating pneumonitis." He may, and often does, call the second "pneumonitis" or "suppurating pneumonitis." In each instance he doubtless knows in his own mind what he means. In both instances the term may be a convenience, *for him*—but it conveys no real sense of the pathology of the conditions. Moreover, it carries a subtle suggestion that these conditions are something new to our experience—a recent discovery:

Then felt I like some watcher of the skies
When a new planet swims into his ken;
Or like stout Cortez when, with eagle eyes,
He stared at the Pacific—and all his men
Look'd at each other with a wild surmise—
Silent, upon a peak in Darien.

But, alas! our modern pulmonologists are not silent; they fill the air, these days, with terms like "pneumonitis" and "primary atypical pneumonia," without the discipline of historical sense or pathological definition.

THE PROTEAN CHARACTER OF BRONCHOPNEUMONIA

In the old days, when clinicians learned their medicine by attending post-mortems as well as the bedside, they understood the morbid anatomy of bronchopneumonia. They were well aware of the protean manifestations of that disease, depending on the nature and intensity of the infection and the quality of the soil. They were aware, in particular, of the differences between simple, suppurating, and necrosing bronchopneumonias; and of the fact that interstitial pneumonia was part of the usual picture of bronchopneumonia. As Kenneth Robson pointed out in a recent letter to the *Lancet*, earlier textbooks like Osler's (and I would like to add Hilton Fagge's) knew all about these things, even though they had not the advantage of radiographs.

Moreover, our conception of suppurating bronchopneumonias was greatly consolidated by the experience of influenzal and other respiratory epidemics in the last war. I have not time now to develop this theme; but I would commend to you a classical work which I fear has been largely forgotten—a volume of studies by Opie and others on *Epidemic Respiratory Disease* (1921). No one should dare to use the terms "pneumonitis" or "atypical pneumonia" until he

has read, marked, and learned the lessons of that book. Opie and his colleagues were mainly concerned with what the Americans would call the "aerobic" infections, not the putrid ones; but the fundamental principles are the same. What they have to say about suppurative and necrosing lesions associated with streptococcal, staphylococcal, and other infections which complicated influenza is most helpful to our understanding of the disease process which leads finally to lung abscess.

Moreover (and this is important to our understanding of the subacute or neglected lung abscess), these studies on the wartime influenza epidemics make it clear that often by the tenth day of the influenzal pneumonia, if the patient survives that far, an extensive fibroblastic reaction may already be under way.

The "pneumonitis" of a chronic lung abscess may be in reality an extensive fibrosis, intermingled with diffuse suppuration, so that the diseased lung is a rubbery, sponge-like tissue, its innumerable small cavities full of pus.

CONCLUSION

To sum up, therefore, I would offer the following points as a basis for this discussion:

1. Similar radiological shadows may be due to various pathological processes.
2. The term "pneumonia" has, for the moment at least, lost for clinicians its wide and varied pathological content. As a result, they are uneasy if the clinical and radiological picture is not, as they say "typical"—typical, I presume, of pneumococcal pneumonia.
3. I suggest, therefore, that so far as is possible we should always define the pathology in more detail. We should talk of pneumococcus lobar pneumonia, for example, streptococcus or staphylococcus pneumonia, or, preferably, broncho-pneumonia; virus pneumonias; simple, or suppurating, or necrosing broncho-pneumonia. We should not forget that bronchopneumonia may be patchy and disseminate, or on the other hand confluent; and that a greater or less degree of interstitial pneumonia is part of its picture.
4. We should remember the oedematous, exudative, allergic reactions which occur in the lungs, recognize them clinically if we can, and call them so, rather than use the term "pneumonitis."
5. As I said earlier, if we have to use the term "pneumonitis" for convenience, to cover some condition of whose pathology we are as yet uncertain, and to gain time until we are certain, we should use it in inverted commas. I suggest that this is a piece of salutary discipline which this Society should encourage. It would give a lead to our colleagues. It would recall us and them to a sense of proportion, and remind us all, that while pathology is one of the institutes of Medicine, radiology is not. It would safeguard us from all manner of heresies. In fact, at this inaugural meeting, it would be the Society's first "good deed for the day."