

On seeking a second opinion¹

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This topic, as it applies to diagnostic histopathology, seems appropriate for an occasion such as the present one, which is traditionally the time for the speaker to look back on his experience and make some comments of a general nature. The wise pathologist should be ready to gain the benefit of another opinion, whether prompted to do so by the clinician or by his own uneasiness with regard to the problem in hand. The subject, however, is one on which almost nothing has been written, and we therefore come to act on the basis of our own experience or the advice of our immediate colleagues.

Pathologists vary a good deal in the use they make of other people's views: we all know the colleague who 'never needs to ask for advice', while at the other extreme we occasionally hear of one who appears to refer all his problems to some appropriate expert before being prepared to formulate and express his own views. Circumstances vary, too. In a large department there is the possibility of a second opinion behind each door along the corridor, while in a small department consultation usually means either a visit to colleagues in another centre, or a letter requesting an opinion from someone at a distance.

The basic questions are:

- When to ask
- Who to ask
- How to ask

The correct answer to each of these involves experience and judgement. As to 'when', the answer should be when a reasonable amount of thought and local consultation has failed to produce a satisfactory solution to the diagnostic problem. To act more precipitately is not to seek a second opinion but simply to transfer the responsibility for a first opinion to someone else. As to 'who', it should ideally be someone who has experience of the particular problem and whose judgement one knows and trusts. The greatest expert is not necessarily the wisest helper. One worthwhile opinion is likely to be more help than the views—no doubt varied—of a

series of international authorities, perhaps not personally known to the pathologist with the problem. Diagnosis should not be made by majority vote, even by experts. These statements are truisms but they are often overlooked. It is the question 'how' that I would like to discuss in more detail, and for this purpose I have reviewed the last 300 cases where I have been asked for a second opinion in recent years (Table). A number of points have emerged which may be of general interest.

Table 300 referred cases: a summary

Source of material	No.
Pathologist	226
Surgeon	53
Pathologist and surgeon	6
Radiologist	7
Other	8

Problems of consultation

One might assume that the problem for the referring pathologist is difficulty in making a satisfactory diagnosis, or even difficulty in making a diagnosis at all. This, however, is not always true, and other factors such as the need to satisfy an anxious clinician, or the pleasure of watching someone else fall into a diagnostic trap, are sometimes involved. But let us disregard these and proceed on the assumption that the aim of the referral is to make an accurate diagnosis. What then are the problems for the pathologist to whom the material has been referred?

First and foremost, of course, is the need to have a representative sample of tissue, appropriately fixed and processed. The first of these matters is largely—though not entirely—in the hands of the surgeon, and we will not consider it further. The 'interesting and difficult' case, perhaps from some part of the world where standards of pathological technique are not as high as they might be—and this includes almost everywhere—is sometimes difficult only because of the peculiar and traumatising procedures to which

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the tissue has been subjected. There is little we can do, retrospectively, to correct this, but we may hope that education and encouragement will make the problem less frequent in the future.

The second need, in my own experience, is to be supplied with the appropriate anatomical and clinical information relating to the specimen. So often, one finds, it has been the lack of this information that has made it impossible for the referring pathologist to reach a correct conclusion, and one's first request must be for the facts which might have helped him, and even made the request for a second opinion unnecessary, had he known how to obtain them in the first place. I am utterly against the point of view that takes pride in stating that the pathologist's only information must be the specimen itself. I know that brilliant guess-work can sometimes deduce a perfect clinical history to match a histological section or a gross specimen, and I must concede that there may be circumstances in which a knowledge of the clinical possibilities may prejudice our observations. We must guard against this possibility, but we should always seek to relate our observations to the clinical situation. This, I submit, is why we need to be medically qualified, and why we term our Association the Association of *Clinical Pathologists*. I am continually disappointed, however, to find that some pathologists feel—either from pressure of work or for other reasons—that their interest is restricted to the specimen under examination, and that the clinical information is the exclusive preserve of the clinician, the radiological findings that of the radiologist, and even the biochemical findings something that belong to another laboratory department, to be studied at one's peril.

To refer to my own field of interest—bone pathology—there are many circumstances in which information other than the actual histological features of a lesion are relevant to the diagnosis. With an osteosarcoma, for example, the distinction between the usual central type of lesion and a parosteal tumour, which is so important for both treatment and prognosis, involves anatomical information not usually available in a histological section but readily deduced from the gross appearance of the tumour or from its radiographic features. The site of a bone lesion, and its size, both of which can have a bearing on probable diagnosis, can be readily ascertained from a clinical radiograph: the pathologist dealing with a bone biopsy should take an interest in such matters, even if more sophisticated radiological features are left to the experts.

For the inexpert—or occasional—bone pathologist, knowledge of the clinical and radiological picture can lead to better pathological diagnosis by posing specific diagnostic possibilities which can then

be considered and accepted or rejected. Fracture callus, which is occasionally mistaken for sarcomatous tissue, can be more readily recognised if one is alert to the possibility of its presence. The significance of a particular set of histological findings in an iliac crest biopsy can be better understood if one is aware of the clinical, radiographic, and biochemical findings. Such matters involve discussion—sometimes lengthy discussion—between the pathologist and his colleagues in other medical disciplines; a request for a second opinion is not something to be used instead of such discussion.

The ideal request

What, then, are the features of a good request for opinion on a case? It should provide the appropriate histological sections (preferably duplicate sections to be filed for future reference), give the necessary background information, and indicate the diagnostic problem that needs to be solved. I always find it a help to know the referring pathologist's opinion; I know, then, how much to explain or justify my own to him.

The role of the clinician

We now come to the part played by the clinician in requesting a second pathological opinion. In general, pathologists are agreed that the best way for the clinician to make such a request is through the pathologist who was responsible for the original report. This guarantees discussion, and the pathologist should be prepared to listen sympathetically to the clinician's request. But the clinician does not always act in this way, and the pathologist is not always a willing ally. In the 300 cases I have reviewed, you may recall that 53 requests came directly from clinicians, and in only six cases was there any indication that the surgeon and the pathologist were acting together (Table). Many direct clinical requests are entirely appropriate. When, for example, a patient is referred to a centre for special treatment (radiotherapy, chemotherapy, special surgery, etc) it is usual for the centre to request biopsy material so that it can be assessed by the pathologist at the centre. A good department should always be ready to provide duplicate sections—preferably with a copy of the original report—in these circumstances.

One comes to appreciate, however, that direct requests from a surgeon sometimes indicate an unsatisfactory relationship between the clinician and his pathological colleague or colleagues. In the interest of the patient, one cannot refuse to advise, but in my own practice I try to help things by sending a copy of my letter or report to the pathologist from

whom the sections originated, whether he has been mentioned in the surgeon's letter or not. In this way I have learned, sadly, that not always has the pathologist known of the request, even when his name has been mentioned.

Sometimes a request for a pathological opinion is combined with an enquiry about treatment, and this raises the general question—sometimes a vexed one—of the involvement of the pathologist in therapeutic decisions. This, of course, is not restricted to the circumstances of a second opinion but hovers in the background of many pathology reports. I hope that the pathologist who prides himself on being a clinical pathologist will always be prepared to comment on the therapeutic implications of his findings. In the field of tumour pathology, comments on the extent of the tumour, or the completeness or incompleteness of its removal, are particularly significant, and it is important to give them proper emphasis in a pathology report. A pathologist with special interest or experience in a particular field, whether this is orthopaedic medicine or some other area of knowledge, may well have some useful thoughts to offer about treatment in this special field, and this is particularly the case in connection with a second opinion. Of course it should be done tactfully.

Improper practices

While referring to requests from surgeons, I must mention some undesirable practices—almost malpractices—for which they are occasionally responsible. One is the direct referral of a biopsy specimen to a pathologist at a hospital other than the one where the patient is being treated. This, to say the least, is impolite, and you may recall that in 1960 the Council of the Association circulated the comment of the Ethical and Professional Affairs Committee that in these circumstances the appropriate route for the specimen was via the pathologist in the hospital where it originated. I would agree with this, although one occasionally hears of situations where the relationship between clinician and pathologist is so unsatisfactory that it is inevitable that some other course is followed.

Then there is the related, but even less desirable procedure, so liable to result in ill-feeling and disaster that I cannot advise too strongly against it, of the surgeon dividing a biopsy specimen in two and referring the samples to two different pathologists! Even some of the best people are inclined to act in this way, particularly when dealing with the very special patient whose eminence apparently clouds their judgement! The risks are twofold. The two samples may show different types of tissue; the two pathologists may express conflicting opinions even

when the tissue is the same. In neither case are they likely to feel that their skills have been appropriately used. A tactful request, by the surgeon, for a second opinion—even in advance of the event—is, of course, a better way to deal with the situation. As pathologists, we must encourage, and develop, the good personal and professional relationships with our clinical colleagues that will help to avoid this type of problem.

'Observer variation' in histological diagnosis

The changes in diagnosis that come to light through seeking a second opinion serve to remind us of the subjective nature of histological diagnosis and the differences that exist between different pathologists, whether because of differences in training, experience or diagnostic circumstances. These differences have not, until recently, been the basis of serious study, but it is becoming apparent that objective comparisons between the diagnoses of different pathologists are possible. Not only are these differences of practical diagnostic significance, but they can help us to understand, and to improve, the process of histological diagnosis. Among the very few published studies is that of Garceau (1964) on the consistency of histological diagnosis of cirrhosis, that of Cocker *et al.* (1968) on the consistency of histological diagnosis of epithelial abnormalities of the cervix uteri, that of Iversen and Sandnes (1971) on the reliability of pathologists in the diagnosis of lymph-node biopsy specimens, and that of Lambourne and Lederer (1973) on observer variation in cytological screening for cervical carcinoma. Sometimes it is the specificity of particular histological criteria that is under investigation; sometimes it is the way individual pathologists use agreed criteria. The rather vexed subject of 'Interlaboratory Histological Evaluation' (Henson *et al.*, 1976) or 'Quality Control in Histopathology' (Penner, 1973; Owen and Tighe, 1975) involves similar comparisons. I anticipate that we will hear more of this approach in the future, both in the formulation of effective criteria for diagnosis, and in the evaluation of the diagnostic standards of individual pathologists or groups of pathologists.

Malignant round-cell tumours of bone

In connection with studies of observer variation I would like to refer to a study which some colleagues and I (Ball *et al.*, 1977) recently made with regard to histological criteria employed in the study of malignant round-cell tumours of bone—a difficult topic if ever there was one! We made a careful study involving the repeated examination, by five experienced pathologists belonging to the Cancer

Research Campaign's Bone Tumour Panel, of routine paraffin sections from a series of 40 tumours of this type. The histological features selected for study were cell outline, nuclear staining, nuclear pleomorphism, conspicuous nucleoli, reticulin pattern, and intracellular glycogen. For each feature the results were coded numerically and analysed statistically to assess the importance of differences between tumours, between samples of tissue from the same tumour, between different observers, and between the repeated observations of a single observer. For the detailed results I must refer you to the published account of the investigation; here, I note that complete agreement was exceptional. For most features the observations of different pathologists differed, and so did the repeated observations of the individual pathologists. Our experimental design allowed us to assess the significance of these differences and to compare the relative magnitudes of the different factors.

We ultimately concluded that, as has long been believed, malignant round-cell tumours constitute a heterogeneous group where the association of certain histological features makes it possible to distinguish, in most cases, between the subgroups usually known as 'Ewing's sarcoma' and 'reticulum-cell sarcoma'. But the study showed that we also had a technique for assessing the dependability of particular diagnostic criteria, and the way in which individual pathologists used them.

Our sojourn in the field of controlled histological observation showed, I think, that in this particular field of bone tumour pathology our ability to apply what were regarded as the usual diagnostic criteria was rather limited, and that the diagnostic criteria themselves were in need of revision and clarification. I would not be surprised if the same was found to be

true in other areas of histopathology. Perhaps this is one reason why seeking a second opinion can be so necessary, and sometimes so perplexing.

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