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Discussion

CHAIRMAN: I should like to raise three points for discussion: firstly, patients with left bundle branch block may eventually turn out to be associated factors of congestive cardiomyopathy, as Dr Kuhn pointed out.

Secondly, coming back to the purpose of the Multicentre Research Project, we previously agreed that the various participating centres would investigate specific aspects, one of which was the investigation of patients with left bundle branch block by the Düsseldorf group. There may be some anxiety among the participating centres for centralizing the results. The submission of protocols as proposed by Dr Bolte and amended by us at our first meeting, is essential to evaluate the data from the various centres. This will enable us to publish our findings jointly in about two years or so. It does not preclude individual centres from publishing their data in the intervening period.

Thirdly, the usefulness of endomyocardial biopsies. In this country in particular, some dismay has been expressed that investigation in cases suspected of congestive cardiomyopathy is inappropriate because of the non-specific morphological appearances. I totally disagree. It is essential to carry out endomyocardial biopsies, not only diagnostically but also as a base line to other investigations. Dr Kuhn has shown yet another reason why patients with congestive cardiomyopathy should undergo biopsy investigation.

DR C. M. OAKLEY: The problem is that not all pre-symptomatic patients have left bundle branch block, nor is it known what proportion has. A plain chest X-ray may be the only obtainable pre-symptomatic feature in individual patients, but it represents an advanced stage of disease in which the heart is noticeably enlarged on the X-ray. The X-ray and the ECG may both be normal, and the patient may have no symptoms – so where can we go from there? A patient with normal features on examination, as well as normal X-ray and ECG, cannot be challenged by measuring his mean transit time and a few other parameters. It will be extremely difficult to screen a population for evidence of early heart disease in the way we intend when our parameters will pick up only about 40% of the pre-symptomatic patients.

We have to try to view a non-selected population because it is totally worthless to state that congestive cardiomyopathy represents 5% of patients with heart disease, or is one-twentieth as common as, say, coronary heart disease, because all the patients have been referred. If we pursue early diagnosis through general practitioners, or the screening programmes available to us, it will be valuable – even then we will still miss a lot of patients.

CHAIRMAN: Dr Kuhn's investigation is at least a start and is extremely important. As Dr Oakley has already said, the survey we plan will require a full time research worker and we must try to obtain funds for this.

DR M. SEKIGUCHI: Dr Kuhn, have you carried out vector cardiographic studies in conjunction with the other investigations? In my experience, vector cardiographic findings may suggest the presence of diffuse obstructive myocardial disease because there may be an irregular distortion of the QRS loop.

DR H. KUHN: We have not performed vector cardiography in these patients.

DR OAKLEY: Does Dr Sekiguchi believe that an abnormal vector cardiograph (VCG) may be present in a patient whose ECG is strictly normal?

DR SEKIGUCHI: I am only saying that in patients with left bundle branch block VCG can be used in their assessment because it enables us to observe what we call an incomplete left bundle branch block.

DR OAKLEY: A VCG cannot be used to supplement the ECG when the latter fails to reveal any abnormality.

DR P. MORET: Is there any correlation between the extent of change in the biopsy and the duration of the QRS?

DR KUHN: No, we have not found any such correlation.

DR L. E. JANUARY: Was the bundle branch block rate-related in any of these patients, or was it a constant block?

DR KUHN: Yes, it was rate-related in some patients. A normal ECG does not, of course, exclude the presence of left bundle branch block. One patient with severe changes had a rate-dependent left bundle branch block. It was interesting to find that the ECG during the normal periods was completely normal, although severe changes were present in the myocardial biopsy.

CHAIRMAN: Returning to the biopsy and the score system. This has been followed by other investigators: Bouhour and his co-workers (1974) agreed with Dr Kuhn, but urged caution. We have discussed this previously. Patients are seen who have congestive cardiomyopathy who, on electron microscopic findings, show no abnormality, but who are dead within one or two weeks of the biopsy being taken, the fatality being totally unrelated to the obtaining of that biopsy.

DR KUHN: I agree that in an individual patient it is difficult to obtain good prognostic information, but taking the data all together – volume, ejection fraction and so on, including myocardial biopsy – improves that prediction. Bourhour and co-workers have confirmed our studies in their paper.

They came to the same conclusions as we did: that is, when two groups are compared it is possible to say that the group with severe changes has a high mortality rate, so that these severe changes indicate a bad prognosis for those patients as compared to the other group. But this is not easy to say for individual patients.

CHAIRMAN: We need to be cautious about making comments on the prognosis based on these parameters.

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If we may take it one step further, Petitier, from the same department, found forty-seven out of ninety-eight with congestive cardiomyopathy. As far as the changes in fibrosis and ultrastructure were concerned, these could be related to the length of history rather than to prognosis. It has come out in previous discussions, although perhaps not today, that Dr Kuhn has not found a relationship with length of history.

DR SEKIGUCHI: In relation to the morphological index presented by Dr Kuhn, how was assessment made of the degree of myofibrillar degeneration and interstitial fibrosis? Was it through the ultrastructure? The evaluation of interstitial fibrosis should be made by light microscopy not the ultrastructure.

DR KUHN: I agree. The interstitial fibrosis in our studies was evaluated with light microscopy partly from the semi-thin sections and partly from the van Gieson-stained sections. Degenerative changes were almost exclusively obtained from electronmicroscopic studies.

DR OAKLEY: Dr Sekiguchi has made my point which I feel strongly about. I may be wrong but I doubt whether different cardiac pathologists would assess similar appearances in the same way. I wonder whether a group of cardiac pathologists, or cardiologists – because, in Japan, the cardiologists evaluate their own material – has ever met to discuss whether they call the same finding by the same name, and give it the same degree of weighting. I suspect they have not.

CHAIRMAN: This emphasises the importance of centralization.

DR OAKLEY: Quality control is possible in pathology, Cardiologists certainly meet frequently to discover whether they are doing the same sort of things.

CHAIRMAN: Scoring is subjective, which is why we are starting to evaluate our biopsy material morphometrically, trying to analyse the material both volumetrically and quantitatively. This is, in my view, essential before we can obtain anything useful from these studies.

DR OAKLEY: Perhaps the biopsy material could be circulated by you among a large number of pathologists to see how they evaluate it?

CHAIRMAN: Yes, but there is plenty of talent among the people involved in the Multicentre Research Project. Material should certainly be circulated among our group. Dr Rose, in South Africa, and his group are the only people who have so far sent material.

PROFESSOR J. F. GOODWIN: This bears out the important aspect of centralizing material. A field worker is essential to carry out this work. The International Society and Federation of Cardiology would support this idea and would make every endeavour to give some financial aid.

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