Are there two varieties of primary open-angle glaucoma?

In this issue we publish a paper from the Vancouver group which claims to have detected two separate 'clusters' of patients with open-angle glaucoma. We should not be too surprised at the idea because something like this has been suspected for a long time. What we should be surprised about, however, and what we should give all due credit to the authors for, is producing evidence. The evidence is based on a somewhat complex statistical analysis of various aspects of the patients' vascular systems plus their glaucoma data. Readers must consult the paper for the details and some may find the statistics hard to follow.

One of the problems about abstruse statistical methods is that non-experts cannot be certain that the claims made have been properly authenticated. The matter has to be taken on trust. The essence of the proposition is as follows. There are two populations (clusters) in open-angle glaucoma. The clusters are distinguishable from one another because in certain characteristics mainly to do with their vascular systems they have differences which can be detected by sophisticated statistical analysis. In contrast, however, they are almost indistinguishable from one another by careful studies of their basic glaucoma data, such as their pressures (equal number of high and low pressure types in the two populations), fields, discs, ages, sexes, and so on. There is, however, one very important difference between the two clusters in respect of the glaucoma data. One of the clusters shows pressure-dependent field-loss progression, whereas the other shows field-loss progression apparently independent of pressure. Even more surprising, the pressure-dependent group comprises only about one-third of all the cases of open-angle glaucoma studied.

If this is true, it is disturbing news so far as management is concerned. Moreover, it goes a long way towards explaining the disappointing results seen in long-term follow-ups of glaucoma treatment such as have been published recently. It now becomes an urgent matter for other centres to get to work to try to confirm or disprove these findings. To a certain extent it may be possible to get some clues to this fairly quickly by retrospective studies, particularly in centres with a good glaucoma data base. Even where good data are available about the glaucomatous characteristics of the patients, recall will be necessary in order to make the various medical tests suggested by Schulzer et al.

If the hypothesis is eventually proved, we shall have to make several changes in the way we approach and manage patients with open-angle glaucoma. Apparently no less than two-thirds of our patients will have field loss which will be non-pressure-dependent. Therefore even more energetic efforts will be needed to try to determine if the loss is dependent on something else. And these patients will require extremely sensitive counselling. We shall need to devise formulae to reassure them that blindness from glaucoma is rare in relation to the large number of persons who suffer from it and that loss of field normally occurs very slowly at an average of perhaps only about 3% a year. This should be enough to reassure most of our 60 and 70 year olds, but we shall be hard put to it to find consolation for our 40 and 50 year olds.

So far as the pressure-dependent group is concerned, the views most in favour of surgery are likely to prevail, and insistence on maximal lowering of pressure will be fully justified.

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