diagnostic groups are heterogenous, with only six of 23 patients (combined group, with amyotrophic lateral sclerosis, lower motor neuron disease, and Guillain-Barré syndrome) showing raised titres against GM1 and only four of 23 (one of four patients with amyotrophic lateral sclerosis) against AGM1 and GM1. As in our sample, this may reflect heterogeneity of disease processes in motor neuron disease. Also, these findings argue against a specific pathogenetic role of anti-ganglioside antibodies. As was pointed out in our study, there may be characteristic antibody patterns (in 75% of our sample of 35 patients with amyotrophic lateral sclerosis); however, we warn against considering them specific.

There is a similar debate about the role of serum antibodies in motor neuron disease and especially of antibodies to GM1: raised titres of anti-GM1 antibodies are not specific for motor neuron disease, but when there are motor symptoms, they do not lower motor neuron disease type.23 Whereas the first studies claimed an association of GM1 antibodies and amyotrophic lateral sclerosis, Willison et al24 found in their 1993 case-control study no association of amyotrophic lateral sclerosis and antibodies to GM1. These data support our earlier findings, that GM1 may not be specific for motor neuron disease or amyotrophic lateral sclerosis (in our sample only four of 35 patients with amyotrophic lateral sclerosis had serum IgM anti-GM1 serum antibodies). Thus to establish a possible pathogenetic or diagnostic role for these antibodies, studies with large sample size and tests for reactivity to multiple antigens are needed.1

Verbal fluency in cortical and subcortical dementia

In a recent issue Rosser and Hodges1 have presented some potentially interesting data relating to measures of verbal fluency in patients with Alzheimer type dementia, Huntington’s disease, and progressive supranuclear palsy. Their main finding is unfortunately dubious in view of an inappropriate statistical analysis.

The effect being sought by Rosser and Hodges1 and which they claim to have found, is a differential pattern of measurement across different measures of fluency between the different patient groups. To confirm what they were seeking in statistical terms, each of the three measures of fluency would be necessary to demonstrate a significant interaction between the patient groups and type of measure. In their investigation they have employed four separate groups (including a normal group as well as the three patient groups already mentioned) with patients in each of these being tested on three separate fluency measures. This corresponds to what is commonly described as a split plot analysis of variance model having both within subject and between subject effects. Data obtained in accordance with this model and subjected to an appropriate analysis do enable the computation of a groups × measures interaction.

By contrast what Rosser and Hodges1 report for their statistical analyses are three one way analyses of variance carried out on each of the three measures with these followed by post hoc comparisons of particular pairs of groups. Apart from possibly being unsuitable in other ways, this form of analysis does not permit the computation of interaction terms. It is also possible for the effects described as emerging from these analyses to appear and yet to find that the more appropriate analysis fails to achieve the