ereative cerebral disorders are probably more frequent than had been expected. Improved neuro-imaging techniques have contributed significantly to this knowledge.


Scheltens et al reply: We thank Dr Colon et al for their comment on our article. Their clinical description of the patient indeed resembles the one given by us. We based our clinical diagnosis of a strictly temporal form of Pick's disease on the age of onset (50 years), the relative sparing of visuospatial abilities and memory function and the bilateral temporal atrophy seen on MRI.

In the case of Colon et al the age of onset was 65 years with a 12 year duration of slowly progressive aphasia. However, disorientation in time, place and persons was also prominent and together with the slight apraxia and agnosia, a diagnosis of Alzheimer's disease might be just as likely. In that respect it resembles the case of Pogacar and Williams.3 Unfortunately, in the case of Colon et al only CT was performed. MRI, with its higher sensitivity might have shown more lesions in the left hemisphere or lesions in the contralateral temporal lobe.

Since our paper was published we have had the opportunity to examine another patient, aged 63 years, with a severely slow progressing receptive aphasia for six years, without any precipitating factor. An MRI scan showed extensive bilateral temporal damage.

We agree with Dr Colon and colleagues that temporal variants of primary degenerative cerebral disorders are probably more frequent than had been expected. Improved neuro-imaging techniques have contributed significantly to this knowledge.


Complications of carotid angiography

We found the survey of complications of carotid angiography interesting, but do not feel it illuminates the authors' goal in evaluating the risks of angiography vs vis ceridotomy surgery. Most of their patients (about 75%) could not be considered for carotid endarterectomy, so complications in the total cohort studied are largely irrelevant.

Many of the procedures are of historical interest only, since the series encompasses the period from 1977-86, during which time the approach, methodology and materials for angiography have undergone radical changes.

The conclusions do not seem to relate to the data. The authors state that angiographic risks will be reduced by selective, aortic arch procedures, yet in their series, only one patient developed a complication following direct carotid puncture, which argues just the opposite. There are no data to substantiate their statement that patients with least complications should be "younger, systematically well and neurologically stable". The mean age of the ten patients with neurological complications was 58.9/year, a little less than the mean age of the whole series.

Surely their data represent simply a personal audit of a whole spectrum of neurological disorders, in patients aged seven to 76 years, and it would be misleading to extrapolate these results to the special subset of patients being screened for carotid surgery. In a recent report of angiographic complications in 1002 consecutive procedures, permanent neurological sequelae were encountered in only 0.3% of cases, and in 0.7% of those undergoing angiography for cerebrovascular disease.

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Hankey et al reply: Drs Zhu and Norris have raised several points about our paper to which we would like to reply. It is true that after cerebral angiography in 382 patients, 74% (282) were not considered to have an 'operable' lesion at the carotid bifurcation but it was stated that "carotid ultrasound facilities were not available". If patients could have been screened by duplex carotid ultrasonography, as we advocate in our conclusion, then perhaps many or even most of those 74% of patients who did not have an "operable" lesion would have spared the unnecessary risks and costs of angiography. However, only two of the eight patients, who had a postangiographic stroke, did not have an "operable" lesion (50-99% stenosis of the symptomatic internal carotid artery) and one of those two had an occluded ICA which can be difficult to diagnose with duplex alone. So, if duplex had been available ideally it could have reduced the number of angiograms being performed (by 74%) to 100 but it would have only reduced the absolute number of postangiographic strokes from eight to seven with a significant increase in the relative risk of angiography from 2.1% (eight strokes out of 382 angiograms) to 7% (seven strokes out of 100 angiograms).

The fact that our series is of "historical interest only" applies to any series of patients. This is a general problem with reporting medical information and generalising the results to the future practice. Unlike many of the series, however, at least we described what type of investigations were done from which the reader can draw their own conclusion. Besides, 67% of patients were studied with either carotid angiography, which was still current practice. The only real difference in the management of this cohort of patients from those of today is that they were not screened with duplex carotid ultrasound, as mentioned above.

In our concluding paragraph we stated that "it would seem logical to assume that the complications of cerebral angiography can be reduced if patients are selected carefully for the procedure" and that the selection criteria should include "physiologically younger patients who are systemically well, not uraemic and neurologically stable". This conclusion was prefaced as such and it is not derived from our data but from what data there are and what we believe is common sense. Apart from the lack of any statistical difference between the whole cohort and those with neurological complication (as inferred by Drs Zhu and Norris) we were referring to patients who were physiologically younger. We also suggested that "the risk of angiography will be reduced if arch and/or selective cerebral angiography is performed... using a transfemoral approach". It is not possible to prove or disprove this claim (which again was not based on our data but on common sense) because there have been no randomised studies comparing the complication rates of cerebral angiography via the transfemoral approach with direct carotid or brachial puncture. The few non-randomised comparisons, for what they are worth, yield no significant difference in permanent neurological complication rates.

The advantages of the transfemoral approach over direct carotid puncture are two-fold: 1) it provides greater flexibility by allowing the radiologist to study different arteries without repeated arteriography and 2) it avoids the consequences of local complications (such as haematoma, intimal dissection or fragmenta-
Complications of carotid angiography.

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