Cross sectional prevalence survey of idiopathic Parkinson's disease and parkinsonism in London

A Schrag, Y Ben-Shlomo, N P Quinn

Only four prevalence studies of idiopathic Parkinson's disease in the United Kingdom have been published to date. These have been undertaken in the north of England or Scotland and span 30 years.[1–4] We report the prevalence of idiopathic Parkinson's disease and other parkinsonian syndromes in 1997 in the London area.

Subjects, methods, and results

Full details of the methods have been reported elsewhere.[5] Records from 15 practices in London (121 608 patients) were screened for a diagnosis of Parkinson's disease or parkinsonism; antiparkinsonian drugs; or mention of tremor after the age of 50 years. Diagnosis was based on clinical assessment (by AS), with a video recording for secondary confirmation (by NPQ). Idiopathic Parkinson's disease was diagnosed according to the criteria of the UK Parkinson's Disease Society Brain Bank,[w1] with the exception that an isolated positive Babinski sign in an elderly patient with otherwise typical idiopathic Parkinson's disease was not considered to invalidate the diagnosis. Isolated classic resting tremor was considered to be "possible" Parkinson's disease. Multiple system atrophy and progressive supranuclear palsy were diagnosed according to published criteria.[w2 w3] Vascular parkinsonism was diagnosed if at least two of the following were present: history of strokes, abrupt onset with stepwise progression, hypertension, a wide based gait with small steps, cognitive decline, pseudobulbar or pyramidal signs. Drug induced parkinsonism was diagnosed if a dopamine receptor blocking drug had been started within six months of the onset of symptoms and taken for at least six months. The date taken for calculating prevalence was 1 July 1997. We calculated crude prevalence rates and age adjusted rates by direct standardisation to the 1997 UK population, and a 95% confidence interval was calculated with Smith's method.[w4]

Initial screening identified 679 patients, of whom 438 were excluded because they had drug induced parkinsonism, presented with dementia, or had no evidence of parkinsonism. Of the remaining 241 patients, 33 declined to participate and 6 died before they could be seen (response rate 84%). Probable or possible idiopathic Parkinson's disease was diagnosed in 156 patients (82 men) with a median age of 75 (range 34-94) years. Probable idiopathic Parkinson's disease was diagnosed in 152 of these patients and possible idiopathic Parkinson's disease in 4. More specific details about cases of multiple system atrophy and progressive supranuclear palsy and about atypical cases are reported elsewhere.[5] Vascular parkinsonism was diagnosed in 17 patients, drug induced parkinsonism in 43 patients, and parkinsonism in 5 patients after the development of dementia. Of the 241 potential cases, 54 (22%) turned out not to have any form of parkinsonism.

The table shows the age specific and age adjusted prevalence rates for idiopathic Parkinson's disease and all types of parkinsonism. Rates increased with age and were greater for men than women in all age groups. The crude and adjusted rates for idiopathic Parkinson's disease (probable and possible combined) were 128 (95% confidence interval 109 to 150) per 100 000 and 168 (142 to 195) per 100 000 respectively. The corresponding rates for all types of parkinsonism were 193 (95% confidence interval 169 to 220) and 254 (95% confidence interval 222 to 287).

Comment

Prevalence of idiopathic Parkinson's disease in southern England seems to be remarkably similar to that in other areas of the United Kingdom reported by previous studies, suggesting no marked geographical variation. Prevalence has remained stable for 30 years despite decreasing mortality for patients aged under 75 years. Assuming that idiopathic Parkinson's disease remains undiagnosed in 10-20% of all community patients,[w5] the true prevalence of idiopathic Parkinson's disease in London may be around 200 per 100 000. These data are helpful for planning specialist services. The relatively high proportion of cases with an errone-

Age and sex specific prevalence per 100 000 for idiopathic Parkinson's disease and parkinsonism. Values are prevalences (numbers) unless stated otherwise

	Probable and possible idiopathic Parkinson's disease			All types of parkinsonism		
Age (years)	Men	Women	Total	Men	Women	Total
0-29	0	0	0	0	0	0
30-39	15 (2)	0	8 (2)	15 (2)	0	8 (2)
40-49	23 (2)	0	12 (2)	45 (4)	0	24 (4)
50-59	145 (9)	70 (4)	109 (13)	162 (10)	122 (7)	143 (17)
60-69	443 (19)	239 (10)	342 (9)	746 (32)	501 (21)	625 (53)
70-79	1032 (29)	904 (32)	961 (61)	1708 (48)	1215 (43)	1433 (91)
⩾80	1659 (21)	1074 (28)	1265 (49)	2370 (30)	1457 (38)	1755 (68)
Total No	82	74	156	126	109	235
Crude prevalence	138	119	128	212	175	193
Age adjusted prevalence*	171	164	168	265	241	254

*Adjusted to 1997 UK population.

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ous diagnosis of parkinsonism is of some concern and deserves further attention.

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Contributors: All authors designed the study. AS assessed the patients and discussed their diagnoses and videotapes with NPQ, who was also involved in the assessment. AS and YB-S did the analyses. All authors helped to write the paper. NPQ will act as guarantor for the paper.

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Ten year audit of secondary prevention in coronary bypass patients

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Treatment of risk factors in patients who have had coronary artery bypass surgery improves their prognosis.[1 2] A national survey performed in Britain in 1994 showed that risk factor management was suboptimal in most patients who had had bypass surgery.[3] This survey was carried out before the publication of landmark trials showing the benefit of reducing cholesterol concentration.[4 5] To determine if secondary prevention has changed as the evidence has improved, we audited the management of patients who had had bypass surgery in Lothian over the past decade.

Subjects, methods, and results

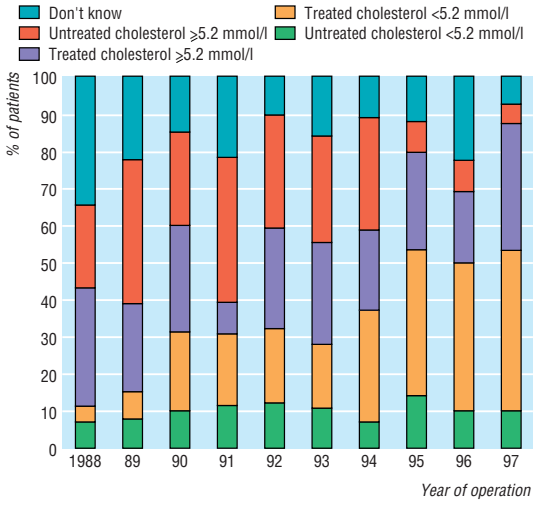
We identified a random sample of 100 patients a year from 1988 to 1997 from the database of cardiothoracic surgery in our regional centre. We sent postal questionnaires to their general practitioners about current aspirin treatment, smoking status, blood pressure, and cholesterol concentration and treatment and compared responses with local audit standards. We received completed questionnaires from 94 practices about 761 (76%) patients, of whom 563 were alive. Aspirin was prescribed to 451 (80%) patients, and 65 (12%) continued to smoke. Seventy patients (12%) had systolic pressure greater than 160 mm Hg and 43 (8%) had diastolic pressure greater than 90 mm Hg. These risk factors did not vary by year of operation.

The proportion of patients with cholesterol measured and below the audit standard (<5.2 mmol/l) rose from 12% (5/42) for those operated on in 1988 to 50% (37/72) for those operated on in 1997. The proportion of patients with correctly managed cholesterol significantly increased for those operated on after publication of the Scandinavian simvastatin survival study in 1994 (figure, $P<0.0001$).[4] Two hundred and seventy patients (48%) attended practices that had audited their management of secondary prevention, but the proportion of patients managed appropriately was virtually identical in audited and non-audited practices (37% (99/270) *v* 34% (99/291), $P=0.956$).

Comment

Our audit has shown that the standard of secondary preventative care was good for well established risk factors[3] but less good for management of cholesterol. Although there has been considerable improvement over the past decade, 48% of patients were still not managed optimally in 1997. Patients who had bypass surgery before the 1994 study[4] were less likely to receive cholesterol lowering treatment, probably because they had been discharged from specialist review and were less likely to consult their general practitioner.

The proportion of patients with suboptimally managed cholesterol was similar in practices that had and



Measurement and treatment of raised cholesterol concentration among patients by year of coronary artery bypass surgery