PRACTICE OBSERVED

Practice Research

Study of stroke patients in a single general practice

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Strokes occur often and probably cause more severe disability than any other medical condition.¹ There are about 100 000 badly handicapped hemiplegics in Britain.² Despite this, there have been few community-based studies of stroke in this country.³⁻⁵ We carried out a study of stroke patients over 10 years in a single general practice in north-east England.

Methods

The notes of all patients in a practice in Redcar, Cleveland, who had suffered their first stroke between January 1966 and December 1975 were identified from the practice disease index. The definition of stroke accepted by the working party of the Royal College of Physicians was adopted.⁶ Details of the age, sex, type of stroke, whether the patient had hypertension (diastolic blood pressure ≥ 100 mm Hg on at least two occasions), the functional recovery after one month, and the length of survival were extracted from the notes and analysed using edge-punched cards. The total number of patients in the practice was found from a census derived annually from the age-sex register.

In April 1977 the survivors were either visited by the doctor or were seen in the surgery. A questionnaire was filled in and each patient was then examined and a functional assessment made, using Rankin's graded classification.⁷ In March 1981 further details about survival were extracted from the notes of those patients who had survived until April 1977. This enabled the calculation of five-year survival rates.

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Results

Eighty-four patients suffered their first stroke during the 10 years of the study. The average annual number of patients in the practice over that period was 6181. The incidence of new strokes for every 1000 patients was 1.36 a year; 22 patients had one or more further strokes, all but two in the five years after the first stroke. The age distribution for both men and women at the first stroke is shown in fig 1: 36 patients (43%) were men, 48 were women (57%). The mean age of the men at the first stroke was 67.2 years and of the women 71.3 years. By April 1977 56 patients had died, three had moved from the practice, and 25 had survived.

FIG 1—The age and sex of 84 patients when they had their first stroke.

Four patients had had a cerebral haemorrhage; one a pontine haemorrhage and three a subarachnoid haemorrhage. All four had been diagnosed unequivocally in hospital. The remaining patients were thought to have had a cerebral infarction. Three of these had a cerebral embolism due to rheumatic heart disease and atrial fibrillation. Thirty-three patients had hypertension: 11 were diagnosed after the first stroke, the remainder were already on treatment for hypertension. In three patients there was evidence of poor blood pressure control before the stroke: two had had a diastolic blood pressure ≥ 110 mm Hg

repeatedly, and one suffered a fatal stroke three weeks after her methyldopa was stopped because of postural hypotension. At assessment five survivors had a diastolic blood pressure ≥ 110 mm Hg recorded twice.

Thirty-nine patients suffered a left hemiparesis, of whom 12 were managed at home (31%). Thirty-six suffered a right hemiparesis, of whom 18 were managed at home (50%). Speech was affected in 35 patients, of whom 18 were managed at home (51%). Twenty-two patients were under 65 years at their first stroke, of whom six (27%) were managed at home. Of the 62 patients over 65 years, 29 were managed at home (47%). Twenty-two patients died within two weeks (16 in hospital, six at home). Forty patients made a good recovery: a month, of whom 16 had further strokes and 17 survived five years. Fifteen patients had a poor functional recovery: a month, 13 of whom had been managed in hospital. The mean hospital stay of these 15 patients was 62 days (range 30-120 days). Four of the 15 patients died of further strokes and two as a result of a pneumonia and two as a result of accidents; seven survived five years. It was impossible to determine the outcome at one month for seven patients.

The overall five-year survival rate for 82 patients was 30.5%. The remaining two patients had left the practice less than five years after the first stroke. In fig 2 patients are compared according to whether they were treated in hospital or at home and are further subdivided according to the presence or absence of hypertension. The better

functional recovery at one month, and four had suffered further strokes that were also managed at home.

All the survivors had been visited by their general practitioner and nearly half by the district nurse. Only one had been seen by the health visitor. In the group of patients with speech problems, a greater proportion had received any speech therapy. Patients managed in hospital were more likely to have received physiotherapy, home help, and meals on wheels.

Discussion

The crude annual incidence of first strokes in this study—1.36 per 1000 patients—is lower than that found in most other community surveys, when the rate is often greater than 2.0 per 1000 patients a year.³⁻⁵ It was comparable, however, to the incidence found in Carlisle of 1.27 per 1000 patients a year.⁸ In common with other studies,³⁻⁵ we found that hypertension in stroke patients is often poorly managed. The onset of detection rests largely on the general practitioner and greater diligence in screening has been suggested.⁹ Once hypertension is detected, especially in patients who are known to have had a stroke, careful blood pressure monitoring is essential.

Patients who were sent to hospital differed from those treated at home in four respects. Firstly, they included the eight patients who had sustained a haemorrhage. Secondly, a greater proportion of patients under 65 years were admitted (73% of patients under 65). Thirdly, because of the greater mortality and morbidity at four weeks in the group treated in hospital it is clear that a greater proportion of patients with severe strokes were sent to hospital. Lastly, it is interesting that of 39 patients with a left hemiparesis 27 were admitted to hospital. The subtle disabilities caused by lesions of the non-dominant hemisphere¹⁰ might make hospital admission more likely. The overall five-year survival rate (30.5%) is less than that in other published series, some of which show rates greater than 50%.³⁻⁵ The better survival rates for the hypertensive patients treated both at home and in hospital reflect in part the younger age of these patients at the first stroke, but may also indicate a better prognosis for stroke patients with well controlled hypertension compared with normotensive patients.

Most if not all of the survivors at April 1977 who had been managed at home seemed to have coped adequately. The important question is whether or not they received optimal care. Over a third of those surviving with grade III, IV, or V disabilities had been managed without hospital admission, and in the whole survey one quarter of patients under 65 years had been managed at home. Nevertheless, only one of the survivors who had been managed at home had received any formal rehabilitation. A study from Northwick Park Hospital showed, however, that selected patients benefit from intensive treatment, though the authors could not be sure whether it was the physiotherapy, the occupational therapy, or non-specific care and attention that was responsible for the observed improvement.¹¹ Half of the patients in our study with speech problems were managed without hospital admission, and none of those surviving had received any speech therapy. Thus it seems possible that some patients managed at home did not receive optimal care.

The question of home or hospital care for stroke patients has been debated.¹²⁻¹⁴ Greenhouse¹⁴ argued that all stroke patients should be admitted to hospital. This is one view, but it is costly and impracticable in Britain at the moment. We suggest that a physiotherapist and a speech therapist should assess either at the outpatient department or at home all stroke patients who are managed at home. The right patients would be selected for intensive treatment and helpful advice would be given to all. Younger patients and patients whose diagnosis is in doubt should also be seen by a consultant physician or neurologist, which could also be arranged at an outpatient department or at a home visit. All patients who need further assessment and help should also be visited at home by an occupational therapist or perhaps an experienced social worker to give advice about aids

FIG 2—The percentage of patients surviving according to whether they were hypertensive or normotensive and whether they were managed at home or in hospital.

Survivors graded according to recovery of function (Rankin's) at April 1977			
Grade	Patients managed at home	Patients managed in hospital	Total
I	3	3	6
II	4	4	8
III	4	4	8
IV	4	4	8
V	4	4	8
Total	13	12	25

survival of patients with hypertension is notable. Of the 22 patients who had further strokes, 13 were initially managed at home and nine in hospital. Ten had hypertension, of whom seven remained at home and four survived five years. Only two of the 12 normotensive patients with further strokes survived five years.

The table gives the grades for how well the survivors functioned in April 1977. The mean survival time to assessment for men managed in hospital was 6.6 years and for women managed in hospital 3.5 years; seven patients had made a poor functional recovery in one month, and two had suffered further strokes. In the group managed at home the mean survival time to assessment was 5.3 years for the men and 3.6 years for the women; one patient had made a poor

and structural alterations that may be necessary. Such an approach to caring for stroke patients would eliminate all the potential disadvantages of home care that this survey revealed, and may also result in fewer hospital admissions.

Conclusions

In a semiurban practice in north-east England all patients suffering their first stroke between January 1966 and December 1975 were studied retrospectively. Eighty-four records were examined, and all the survivors in April 1977 were assessed for functional improvement, were examined, and the amount of medical and social support received was recorded. Thirty-five patients (43%) were managed without hospital admission; 33 patients had hypertension (diastolic blood pressure ≥ 100 mm Hg), of whom 19 (57.6%) had had previously undetected hypertension or had poorly controlled hypertension. Only one of the 12 survivors managed at home had received rehabilitation.

We stress the importance of the role of the general practitioner in detecting and monitoring hypertension. Optimal care of patients who have had a stroke does not necessarily imply hospital admission. Care could be given where needed if all patients were seen at least once by appropriate medical staff and selected cases by a consultant physician or neurologist.

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Pathology of Partnerships

Disappointments, seductions, and resentment

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I had a number of problems when I became a new member of an established general practice partnership 23 years ago. I was a little surprised when some of these problems occurred on becoming a "new" partner for the second time five years ago. I had been appointed a senior lecturer in neurology at the medical school 18 miles from my first practice. Like any other academic in clinical medicine I needed the intellectual stimulus of continuing to practice my discipline: in any case I was not prepared to forgo the emotional satisfaction my work in general practice had always provided. Not surprisingly the problems that occurred were also emotional, though susceptible to intellectual examination—perhaps rationalisation would be a better term. I

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think that these emotional problems are integral to becoming a new partner in an established practice.

Both times I became a partner to have contact with patients. The first time I was selected to help my partner to care for their patients: the second time I was selected to help my partner because they were willing to let me help to care for their patients. On both occasions I wanted to succeed as a GP and please my partners. On the first occasion I assumed that succeeding with patients would automatically please my partners. I made the same mistake 18 years later. I did not allow for the personal relationship that grows between an individual and his doctor, which affects both of them. This is a normal function of general practice, and thus it may be incorrect to consider experiences that arise from it as pathological; nevertheless, I think that these experiences are sufficiently important for young doctors to be made aware of them.

For the first few weeks of being a "new" partner none of the patients that I saw thought of me as "their doctor." The pervad-

ing emotion at the beginning of a consultation was disappointment—almost resentment. People might have been disappointed because they were not seeing their own doctors or they might have been seeing me because their own doctors had disappointed them. I sometimes disagreed with my partners' diagnoses or with the treatment they had given. At the beginning of my first partnership I was surprised that most of the disagreements with my partners' decisions occurred among patients who were disappointed at seeing me. Surely it should have been the other way round. By the beginning of my second partnership I had read *Treatment or Diagnosis?* and I was no longer surprised.

I was fortunate in my first partners, who dealt courteously and kindly with their brash, argumentative young partner. They introduced me to the safe house of open discussion between peers, and I will be eternally grateful. As I settled into that partnership a second problem arose from established doctor-patient relationships. I built my own relationships with patients who began to view me as "their" doctor, and I expected my partners to be pleased—after all, I was no longer to relieve them of some of the practice work load. My partners were not always pleased: sometimes they were hurt and resentful. Because open discussion had been established I came to understand how I was seen as a seducer and the patients as unfaithful, if not frankly promiscuous.

In the second partnership I was not surprised by the mood of disappointment nor by who the patients were about whom I thought the decisions were questionable. I approached my new

partners in the open way my old ones had taught me. To my horror these approaches seemed strongly resisted. I had been naive. I had not realised that I was no longer a young doctor entitled to seek help and advice from my seniors: I was a senior lecturer endowed by my partners with an authority totally irrelevant to the uncertainty which is an integral part of all general practice. My wish for discussion was seen as authoritarian criticism, and the feeling of resentment this engendered probably compounded their resentment of me as seducer.

Five years on things have, I think, settled down. My partners have seen me make paradoxical decisions just as they do and seen patients switch allegiance from me to them as well as suffer the pangs of changes of allegiance in the other direction. I trust them to trust me enough to have foregone the use of a pseudonym for this article. I think that we have reached that stable state of partnership in general practice where lack of agreement is seen not as criticism but as the consequence of differences between human beings who work closely and professionally with other unpredictable humans who are called patients.

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Organising a Practice

Designing premises in a "shell"

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After the Family Doctor Charter of 1965, the late 'sixties heralded the development of group practice and led to the health centre boom of the 'seventies. Bury was a metropolitan borough of Lancashire of about 60 000 people, served by 23 doctors with premises fairly centrally placed in the town and by doctors in several other partnerships located on the periphery who mainly looked to the surrounding areas for their practice population.

In 1967 a group of seven of the Bury "central" doctors amalgamated to form a group practice and as a result of this withdrawal from the weekend, holiday, and sickness scheme that had operated since the early days of the Health Service. As a member of a two-man partnership I was concerned about acquiring new and improved premises and developing a firmer and more reliable system of off-duty cover. I approached one of the other practices to see if together we could persuade the other members of the holiday and sickness scheme to combine and form a second larger group practice. As a result of this, the Minden Medical Centre Group was formed from nine principals with a combined list of 24 000 patients.

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Finding premises

The sitting of the new premises had to satisfy the executive council (the forerunner of the family practitioner committee) that it would be just as accessible to the patients as the original premises. Indeed, the general practitioners themselves needed reassurance that their list sizes (and their incomes) would not be depleted by the move, though Bury was then a designated area with relatively little competition for the large number of patients. When the four single-handed doctors, the partnership of two, and the other partnership of three finally moved into the new premises the average distance moved was less than half a mile. A new town centre was under construction by a large property development company with ground floor shops and first and