BRITISH MEDICAL JOURNAL VOLUME 293 22 NOVEMBER 1986 1349-1352

PRACTICE OBSERVED

Research in Progress

Thirty one years of herpes zoster in a rural practice

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Abstract

The principal finding in this study of 151 cases of herpes zoster in a rural practice was the predominance of patients who had a lesion on the right side. This supports the proposition that the site of occurrence may be determined by repeated trauma. The decline in the frequency of attacks in older men was significant.

Studying these cases and published reports has elucidated some of the problems of the occurrence and distribution of herpes zoster in the body, which still await definition. Others may be encouraged to carry these studies further.

Introduction

Herpes zoster has held a great fascination for me during my 33 years in a rural practice in south west Scotland. Over the years I have watched its association with chickenpox become better understood and its morphology elucidated. My original interest sprang from the anatomical distribution of the lesion shown by each case. This relation between the affected sensory nerve root and the area of the rash has of course been recognised since the turn of the century.[1]

The relation between herpes zoster and chickenpox also began to interest me, and in 1962 I contributed a short article to the *Practitioner* on the danger of non-immune contacts catching chickenpox from a person with herpes zoster.[2] At that time I had not read Dr Hope Simpson's paper reporting that chickenpox contracted from herpes zoster was due to the same virus as chickenpox.[3]

A few years later Hope Simpson suggested that after an attack of chickenpox the virus lies dormant in the sensory root, to be reactivated later either by a reduction of the host's immunity or by stimulation of the virus by an unknown cause.[4] In most cases, however, the precipitating cause remains unknown. Why an attack of shingles should develop in a particular segment has been much discussed and provided the main interest of my study.

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Findings

All cases of herpes zoster seen in the practice over the past 31 years were noted. During that period the size of the practice remained at 1850 patients. Altogether, 151 cases were identified and a note made of the patient's age and sex and the time of year at which the infection occurred. A careful note was also made of the segment affected and any relation there might have been with subsequent cases of chickenpox, recurring attacks of shingles, or any obvious precipitating factor.

TABLE I—*Age and sex of patients who had herpes zoster*

Age (years)	Males (n=71)	Females (n=80)
0-20	11	5
21-40	18	10
41-60	26	26
61-80	16	35
Over 80	0	4

The numbers of males and females who developed herpes zoster, corrected for the numbers of each in the practice, are roughly equal, though the age incidence tended to show a disproportion of young males (0-20 years) and older females (over 80 years) (table I). The incidence of herpes zoster in men over 60 years of age is strikingly and statistically ($p<0.01$) reduced when compared with the frequency of attacks in older women of the same age.

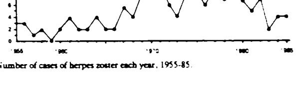
Attacks occurred most commonly during the summer months with a peak in September (table II), showing a more definite incidence during the

summer months than in Hope Simpson's series of 192 cases. He considered that the time of year had no effect on the incidence of herpes zoster.

Over the 31 years 151 cases of herpes zoster were treated, an average of about five cases a year or an incidence of 3·70 cases per 1000 patients—midway between Hope Simpson's incidence of 3·4 in Cirencester[4] and McGregor's 4·8 cases per 1000 patients in Hawick.[5] The figure shows a stable pattern over the years, with an increase in the number of cases occurring each year between 1969 and 1982. No obvious reason for this increase can be deduced.

TABLE II—*Time of year of attacks*

Month	No of attacks	Month	No of attacks
Jan	6	July	16
Feb	9	Aug	15
Mar	9	Sept	21
Apr	9	Oct	10
May	17	Nov	18
June	12	Dec	9



Number of cases of herpes zoster each year, 1955-85.

The incidence of herpes zoster in various parts of the spinal cord shows the essentially centripetal distribution of the rash when a large series is analysed. This mirrors the distribution of the rash in its parent condition, chickenpox. As noted by others the fifth nerve root was most commonly affected.[6] The distribution in the 151 patients was: V1, 11 cases; V2, none; V3, three; cervical 24; thoracic 73; lumbar 35; and sacral five.

One of the most interesting points brought out by this study is that in 92 cases the right side of the body was affected and in 59 cases the left. The increased incidence of attacks on the right side was significant ($p<0.01$).

Herpes zoster as an infective disease—In seven cases in this series it was verified that cases of chickenpox arise from cases of herpes zoster. Presumably either these contacts had not previously had chickenpox or their immunity had lapsed. In four cases the infections occurred in the reverse direction. Perhaps the two most interesting and thoughtprovoking cases in this respect were of a father (aged 60) and his son (aged 37) who had attacks of herpes zoster at an interval of 18 days.

Relation to repeated trauma—Two patients whose occupation might have had a bearing on the area affected by the herpes zoster rash were a female knitting machine operator aged 54, in whom the T6 segment was affected, and a male painter aged 38, in whom the T2 segment was affected. Both were right handed, and in both the eruption arose in the upper right thoracic region where repeated trauma may have predisposed the area to the disease.

Two of the most severe cases of herpes zoster were in heavy vehicle drivers; one was a man aged 58 who developed the rash in the area L2 with associated loss of motor power, the only patient to show this phenomenon; the other was a man aged 53 with the rash in the 4th thoracic segment. A woman aged 70, with a long history of repeated attacks of sciatica, developed a rash in the area S2.

Herpes zoster and decreased immunity—Two cases caused initial anxiety. One was in a young man aged 28 years, who two years earlier had had a renal transplant and was on a long term course of immunosuppressive drugs and steroids; the other was in a man aged 64 with chronic asthma, who was being treated with long term steroids in the form of prednisolone 5 mg night and morning. The young man's attack passed off quickly, but, as expected, the older patient had a more troublesome rash. Only in five cases were events which might have reduced the patient's resistance identified (table III).

Second attacks—Though relatively uncommon, second attacks of herpes zoster usually occur, it is said, in the same segment. In this series, however, three patients had second attacks and one had three attacks, each time in a different segment. Since I retired one patient has had a fourth attack, each attack affecting a different segment but all on the same side.

Herpes zoster presenting as renal or gall bladder colic—Two women, aged 66 and 77, developed severe pain in the right hypochondrium and were considered to have acute gall bladder disease, one being admitted to hospital with that diagnosis. The appearance of the rash eventually made the diagnosis obvious, and subsequent radiological examination showed no evidence of gall bladder disease in either case. A third patient, a man aged 56, developed a herpetiform rash over the left renal area. Again, before the eruption developed the correct diagnosis was not made, and so typical of renal colic was the pain that two injections were given during one night for relief of the pain. Subsequent examination of his renal tract showed no unequivocal evidence of stone or abnormality of his kidney.

TABLE III—*Possible precipitating factors*

Sex and age (years)	Condition
M 56	Recovering from hepatitis
F 57	Nursing dying mother
F 72	Terminally ill (not cancer)
F 92	Very frail—recent soaking
F 48	Moving house

Postherpetic neuralgia—Previous writers on the subject have commented on the problem posed by the occurrence of postherpetic neuralgia, but the incidence of this complication in this series is low. Only three patients seemed to be severely disabled over a long period. All of these patients had a severe attack in which the blisters became confluent, leaving large areas denuded of skin.

Discussion

Many of these results compare well with those of previous investigations into herpes zoster and show no major points of variance in age, sex, or distribution of the rash. One result, however, was significant ($p<0.01$)—that is the decline in the frequency of attacks in men aged over 60. This is in contrast to Hope Simpson's findings that the frequency of attacks in patients aged over 50 nearly doubles and doubles again in extreme old age. The increase in the attack rate in older women cannot be explained by the large number of women who are still alive in these age groups, and the decreased incidence in older men does not support the hypothesis that the increased incidence of herpes zoster in older patients is due to a diminution of their resistance to the chickenpox virus latent in their bodies.

One association, often cited but not found in this series, is with malignant disease. This is probably because this series is based on cases collected from general practice.

Questions that arose early in the study were: Why should the herpetiform rash arise on that particular side in that particular segment? and What was the stimulus that triggered the eruption there? Surprisingly few attempts have been made to answer these questions, though Jules Jensen thought that he had found an answer when he identified recent trauma in 38 of the 100 cases he studied.[6] These findings could not be verified in this study, mainly, I think, because minor incidents of trauma are so common that their relevance to subsequent events is difficult to evaluate. Jules Jensen's other finding that a history of recent sinusitis is common in cases that affect the fifth nerve seems to be better authenticated, but again could not be confirmed in this series.

Perhaps the mechanism of this latter association lies in the reflex irritation caused by the infection, and one case in this series tends to confirm the reflex stimulation theory: a patient with chronic sciatica in whom the rash appeared in the appropriate segment.

An interesting and previously unrecorded point brought out by this survey is that the right side of the body (92 cases) was affected more often than the left (59 cases), suggesting that the greater use of the right side by the predominantly right handed population may decide the site of the eruption. Unfortunately, no record was kept of whether the patients were right handed or left handed. It is usually accepted that about 10% of people are left handed.[7] The cases of two right handed patients who performed hard physical work with their

right arms and developed herpes zoster in the appropriate areas supports this contention and also Jules Jensen's proposition that the precipitating factor in determining the site of the rash is trauma, probably repeated rather than acute.

The patients in this series with recurring attacks of herpes zoster did not, as is usually suggested, develop the rash in the same segment as in the previous attack. This is another finding whose importance is difficult to evaluate because presumably there was a different precipitating factor on each occasion. Hope Simpson found that in four of his nine patients who had second attacks the same sensory ganglion was involved as in the previous attack.

Another finding not mentioned by previous investigators is the variation in the incidence of the disease over the years, with a definite increase in the incidence between 1969 and 1982. No obvious cause for this could be found. The greater incidence of cases of herpes zoster over late summer and autumn does not suggest that the state of the general health is important in determining when herpes zoster will occur, and even moderate doses of steroids and immunosuppressive drugs seem to have little effect on the course of the disease. Only five of 151 cases were identified as being debilitated before the onset of the rash, which is a small number if lowered resistance is important in producing the rash.

Like so many investigations this study has posed more questions than it has answered. Why the rash of herpes zoster should occur in a particular segment seems as far from being answered as ever, though it has been suggested that mild trauma plays a part, and reflex irritation seems a reasonable theoretical suggestion in some cases. The three patients with symptoms of severe colic, two biliary and one renal, seemed to promise more information and hopes that there were underlying pathological changes were raised but were disappointed. Another common source of reflex irritation would in theory be the appendix, but no association between appendicitis and subsequent herpetic rash has been reported.

Though these conclusions were disappointing, the association between zoster and chickenpox was fascinating. Seven patients caught chickenpox from patients with herpes zoster, but four patients appeared to develop shingles after contact with patients with chickenpox or herpes zoster. The case of the father whose son developed herpes zoster 18 days after the onset of his own rash showed that transference is possible, though still difficult to explain. Perhaps they were both subjected to the same "trigger factors."

The spread of the infection among patients with herpes zoster has been confirmed by the report of seven cases of herpes zoster in a small factory.[8] The authors suggested that the spread of the infection was by droplet infection from the nasopharynx, for in none of these patients did the rash develop on an exposed part of the body.

In 1974 Hope Simpson reported herpes zoster in three young children in the same family over a five year period and asked for similar cases to be reported.[9] Obviously the story of this fascinating condition has not ended.

I thank Mr W Lutz of the Medical Computing and Statistics Unit, Edinburgh University, for his kind help on the significance of the statistics.

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(*Accepted 8 September 1986*)

Good Practice

What is a good GP?

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There must be as many views about the qualities that make a good general practitioner as there are patients. I could describe the attributes I require in a GP in my various roles as patient, father, husband, and son. Clearly, GPs must be many things to many people—but here I focus on those qualities needed to enhance the GP's image in the view of the geriatrician.

First and foremost, it is essential to take elderly patients seriously—to have the patience to give them the time, understanding, and respect that they need. I am always suspicious of people who claim that they "love old people." This usually means that they have a vague but affectionate, sentimental picture of the roughly seven million people in Britain who are in this category. Differences between people become more marked with increasing age, however, and variation around the norm increases—whether it is haemoglobin concentrations, sodium concentrations, or personalities that are being assessed. Many elderly people are "difficult." They have been made that way by their experiences. Illness in old age is "difficult." It presents in different forms and guises. The so called "silent pathology of aging" is a misnomer: it is not mute, but the pathology is talking to us in a language which is still ill understood. Skill, patience, and time are needed to interpret these new and unusual signals.

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Elderly are disregarded

Although there is good evidence of the need of elderly people for medical services, there are also signs that some general practitioners are reluctant to take these needs seriously. Evidence from the examinations of the Royal College of General Practitioners shows a serious disregard for the problems of the elderly. Less than 8% of

logged consecutive consultations were concerned with patients over 75 years of age. In addition, of 60 questions in the multiple choice question paper for the membership of the Royal College of General Practitioners (1982-5), none could be classified as "geriatric medicine."[1,2] Less than 2% of general practitioners are members of the British Geriatrics Society. These may be unsatisfactory markers, but patients commonly report that GPs dismiss the elderly and their symptoms. Reports from Age Concern paint a similarly bleak picture.[3]

Such a state of affairs is bad for the current generation of elderly people (the main consumer group of the National Health Service) and will be bad for the future of the medical profession. (It is unlikely that future generations of elderly people will contain as many stoics as at present.) The introduction of good practice awards might be an opportunity to correct this present sorry state of indifference. Selecting fair and relevant criteria, however, on which to base such awards will be difficult and contentious. Most observers would accept that an accurate age-sex register is essential, but essentials should be universal and arguably should not qualify for special awards. Encouragement to develop such registers is clearly needed. For instance, in a West Midlands survey in 1984-5 only half of the practices had age-sex registers.[4] And once established the register must be used efficiently and kept up to date.

An awareness of the elderly population in a practice should not result in invasion of their privacy nor lead to compulsory attentions from the surgery or other manipulations. Most elderly patients are capable of managing their own affairs and of seeking medical help when necessary if they feel that the GP will be receptive to their inquiries. The case finding method described by Stringfellow and his team in an Oxford practice should perhaps be used as a blueprint of good practice.[5] Here, patients over 75 years of age, who had not been in contact with the practice during a 12 month period, were sent a letter and given the opportunity of raising any problems or accepting the invitation for a home visit. This appears to be an adequate and civilised way of building and maintaining a good relationship with the oldest patients in the practice.

Special arrangements should be made to identify the most vulnerable elderly patients on any list—that is, the housebound and the demented. These patients may need help from health and social services but because of their disabilities be unable to receive it. (Patients who live alone are at particular risk.) Special payments would be justified for such patients, provided details of the case history had been documented and their wellbeing assessed regularly. Evidence should also be provided that their disabilities had been thoroughly investigated and a precise diagnosis made to avoid the oversight of any remedial problems. If necessary the help of a geriatric outpatient clinic, day hospital assessment, or memory clinic might be used to facilitate the management of these patients at risk.

Hospital or home?

Many elderly patients with acute illnesses are often admitted to hospital simply because there is insufficient support for them to be nursed and nourished at home. If sufficient help was available (up to and including 24 hour nursing and domestic help) these patients would prefer to make their recovery at home and would probably do so more quickly in their familiar surroundings. Any necessary rehabilitation after the acute phase could be provided in the day hospital of the department of geriatric medicine. Provision of hospital at home schemes[6] or augmented home care programmes[7] would make short periods of intensive domiciliary care possible. Patients would benefit, and pressure on hospital beds would be reduced. There is evidence that where such schemes have been tried they were popular with patients—but not with all GPs. Encouragement will therefore be needed to entice the reluctant GP, and the extra work required should be rewarded. The active support from GPs would make the growth of such schemes more likely, and good practice awards for activities that are currently impossible to carry out because of lack of facilities would act as a powerful stimulus for the necessary changes in resource allocation in a health district.

So far I have concentrated on services for the ill elderly, who clearly are a medical responsibility. I would like, however, to see medical activity extending to the fit elderly, especially the young old—those who have just reached retirement age. Current retirement courses are biased towards financial matters—for example, "How to invest your lump sum." At retirement people are ripe for re-education about their "lifestyle" and are prepared to make changes in their behaviour. The general practitioner and the primary care team should capitalise on this and provide help in retirement sessions at the health centre. The addition of "age well" sessions to their programme of antenatal classes, toddler sessions, and well women clinics would be advantageous. Patients could be taught to be more self reliant and health conscious, and, in addition, the sessions would provide a good foundation for a trusting relationship between the elderly people in the practice and their medical attendants at the beginning of what is likely to be their main career as a patient.

Show an interest

The use of practice rewards should make it possible to encourage improvements in medical care of the elderly—in most if not all aspects, but it is also important to encourage continuing interest in the health problems of the elderly and their possible solutions. To assess and monitor a GP's performance in this respect is not easy. Nevertheless, the possession of the diploma in geriatric medicine may be a useful indicator. It is fashionable to deride examinations, but success in the diploma depends on the GP showing insight into relevant problems and evidence of familiarity with relevant publications. Proof that good practices persist is even more difficult to assess, but membership in and an active concern with the activities of an appropriate organisation, such as the British Geriatrics Society, the British Society for Research into Ageing, the British Association for Service to the Elderly (BASE), and Age Concern, might be useful markers.

Because of the nature of the task put to me in the request for this article I have concentrated on current defects in general practice. I must conclude, however, by registering my admiration for most of the general practitioners with whom I work. It is a pleasure to collaborate with them in their management of elderly patients and to assist in the training of doctors who wish to enter general practice. In many surveys of vulnerable elderly people at home it has been shown that it is their general practitioner who visits them more often than any others from the caring professions—for example, the social worker, volunteers, or members of the church—and of this we should be proud, but we should not be too proud to shy away from any deficiencies or opportunities to improve matters.

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