Personal Paper

How my teaching about the management of stroke would change after my own

TREVOR H HOWELL

On 28 April 1983 I had a cerebrovascular accident. My left arm became useless; the left side of my mouth felt strange and so did my tongue; swallowing was difficult and I tended to choke when I drank. For some time my arm felt a vibration, as if I had been lying on it for a long time. Fortunately my leg remained quite unaffected and I had no sensory abnormalities.

For the first three days I had to live on semisolids. Solid food tended to accumulate in the corners of my mouth and under my tongue. After this the lips and tongue returned to normal, so that I could eat more normally in comfort. At the same time the movement came back to my shoulder. One odd clinical finding was that when I yawned the fingers of my left hand would move.

After this, shoulder movements became fuller, elbow movements started to come back, and, eventually, wrist flexion and extension made their appearance. After two months, the fingers began to flex and extend, but the thumb and index finger recovered less than the others. For several weeks there was considerable oedema of the left hand, including the proximal part of the fingers. This was to produce some difficulties later.

The clinical sequence of events described above produced a number of problems in daily living which had to be solved. Given that I had taught students about these for many years I began to think how my own experience would affect what I taught them. What follows is what I would now say.

The doctor's role

When a doctor is called to see a patient with a stroke he usually finds both the sick person and his family in a state of shock and despondency. After examining the patient and assessing his condition his first duty is to encourage them. He must not commiserate that the patient has suffered a serious loss of function, but congratulate them that so much ability still remains. Then he should advise that the affected limbs should be put through their full range of movements several times a day, either by a physiotherapist or by the family themselves, as Celsus advised in the first century AD.

As the patient starts to recover several problems will arise from his residual disabilities. The family should be warned about these and given guidance as to how to deal with them. One of the first will be the question of bathing. If the patient gets into a bath the weakness of his hemiplegic limbs will make it very difficult to get out, even with help. A bath seat, or a

plank placed across the bath, will enable him to sit up and use his good arm and hand to help in washing himself. Self help must be encouraged and dependence on others discouraged. When he becomes stronger and can get into the bath unaided, there is a set of movements which will enable the patient to get out of it without help. First, he should sit upright. He then clenches his good fist and presses it on the bottom of the bath. Next he rotates his body to the strong side, flexing his legs as he does so, with his feet on the bottom of the bath. Extension of the legs will allow him to stand up, ready to get out of the bath.

After this, the patient should try to dry himself. He may find that a large bath towel is unsatisfactory, since it tends to fall into folds, which get in the way of his rubbing movements. A small towel is simpler to control, and will make it easier to dry his unaffected limbs and the inner aspect of his hemiplegic arm and leg. Nevertheless, he will have to twist his trunk if he is to rub the outer side of his weak limbs. This may cause a strain in his lower intercostal muscles of the hemiplegic side, which may be painful. It may prove rather hard to dry the upper part of the good arm, and particularly the axilla, if the hemiplegic wrist and hand have recovered only incompletely.

Dressing

After drying, the next problem is to get dressed. Each garment has its own difficulties. For example, it is not too hard to put on pants with one hand, grasping first one side and then the other alternately, pulling upward. To get trousers in position, however, needs similar movements repeated six or eight times. Even so, the garment tends to droop towards the floor when the grip is released. This is most obvious towards the end of the operation, when it becomes necessary to fix the top of the trousers, either by a button or a clip. At this moment gravity comes into play and the whole garment falls to the floor unless caught in time. In fact, putting on trousers may be fatiguing and exasperating. Nevertheless, the garment can be secured by leaning against a wall while doing up the buttons or zip. If the garment has braces attached these can be looped over an arm to prevent the trousers from descending. It is so easy to put on the garment with two hands and relatively difficult with only one.

Putting on socks may create similar problems. These may be overcome by invaginating the part covering the foot, folding the ankle portion over it. This allows the toes to be easily introduced. Then a one handed pull will bring the sock up into position and the ankle portion can be folded back. Vests, shirts, and coats have their own peculiarities. Getting the weak arm into its sleeve first is not too difficult. But there is then a tendency for the garment to get on top of the head when the other arm is introduced. This may necessitate a series of awkward rotatory movements to grasp the lower part of the

Department of Geriatric Medicine, St George's Hospital, London SW17

TREVOR H HOWELL, FRCPE, honorary research fellow

Correspondence to: 21 Abbotswood Road, London SW16 1AJ.

shirt or vest or coat to pull it downwards into position. Pyjama tops have a similar problem.

I have already mentioned the need for compensatory movements while dressing. Such movements also become necessary in everyday life. Any object on the weak side of the body may be difficult to reach with the affected hand. Hence the trunk is rotated to allow the good hand to grasp it. This may be quite forcible at times, twisting the intercostal muscles, which become quite painful as a result. This brings us to the problem of sleeping. Patients are always advised to sleep on the sound side. But if they attempt to turn over in bed, the strained intercostal muscles, which are tender, wake them up and they have a broken night's sleep. To one who had previously been a good sleeper that proved more than a nuisance and I had to choose an analgesic carefully to stop the whole sequence.

Re-education in walking is best undertaken by a physiotherapist. When the patient has to put on shoes, however, he may find it difficult or impossible to tie his laces in a bow. In these circumstances, the use of elastic laces which remain permanently tied but allow the feet to enter the shoes without difficulty since they stretch to accommodate them is a great advantage.

There is a definite technique in getting into bed. The patient must approach it closely so that his calves touch the bedclothes. He then sits down and loops the strong ankle underneath the weak one. Rotating the trunk and flexing the knees at the same time will allow him to get on top of the bed. He can now move into a suitable position by leaning on his elbow and ankles, which can be used to let him wriggle into place. Such a manoeuvre is best performed with the strong side towards the head of the bedstead.

I cannot emphasise too strongly that one of my greatest enemies was the frustration which resulted from fruitless struggling to perform tasks which would have normally been simple to carry out unaided. It could cause one to become morose and miserable—distressing both me and all those around me.

Toilet problems

An unexpected difficulty arises when a hemiplegic patient goes to the lavatory and wants to use toilet paper. A pull on the roll with the unaffected hand merely unravels the entire roll leaving a yard lying loose on the floor. One has to find some way of anchoring the roll while using the good hand to detach one piece at a time. At first it may be necessary to place the head firmly on top of the toilet roll before trying to detach a section with the stronger hand. Alternatively, several pieces of loose paper may be placed on a shelf or small table within reach.

Fatigue

An unexpected complication of my stroke was a definite loss of exercise tolerance. This seemed due to several factors. Firstly, there was an element of cerebral shock. Secondly, and more important, was the frequent need to undertake compensatory movements with my right hand. These tended to strain my lower left intercostal muscles, causing pain. Broken sleep would make for a poor night's rest and give a feeling of tiredness next day. Finally, the need for repeated compensatory movements was much more tiring than normal activities of the left hand would have been.

Oedema of the hand

Oedema of the hand has been known for almost a century. The best modern account was given by Exton-Smith and

Crockett, who found it in 16% of their series of hemiplegic patients.¹ The oedema fluid has a high protein content and it seems to originate in inefficient drainage from the lymphatics resulting from poor and infrequent movement of the muscles. Usually occupying the dorsum of the affected hand, sometimes, however, the oedema may lie on the palmar aspect of the fingers. Here (since fingers recover last and least) it may become organised and make flexion of the affected digits difficult. Hence effective treatment of the oedematous parts is important. Passive movements will do something towards draining the fluid away. If these are not wholly successful other methods may have to be tried. The use of sinusoidal electrical current is sometimes beneficial in encouraging drainage by making movements in the small muscles of the hand. Where there is an element of spasticity present faradism is contraindicated. When that is absent, however, such a current can cause more forcible movements with benefit to the patient. The use of plasticine or "putty" has only limited value in restoring movement in hemiplegic hands, as opposed to its effectiveness in arthritic fingers.

In my own case the residual organised protein failed to disappear even on voluntary movement. Hence I went back to my own physiotherapists at Queen's Hospital, Croydon, and asked them to help me with a research project. Our first move was to use the flow pulse intermittent pressure apparatus to squeeze the tissues of my left arm, hoping in this way to remove the inspissated protein residue, which limited my ability to flex the fingers. This might have been much more effective if it had been used earlier, but, though there was some improvement, little pads still remained in the palmar aspect of my proximal phalanges showing pitting on pressure. These diminished immediately after treatment.

Since my own experience had shown that ultrasonics could soften fibrous tissue I asked my physiotherapists to use this. Stiffness in the shoulder was greatly relieved, but the effect on the fingers was only slight at first, but showed improvement later.

It is a common observation that hemiplegic patients disregard their affected limbs. There may be two aspects to this. One, the inattention is due to neurogenic damage. Another, I found, was that having evolved compensatory movements in the good hand, I employed these instead of using the weak limb.

The hemiplegic stiff shoulder

A stiff, painful shoulder after a stroke is not unusual. If neglected this can cause considerable discomfort and disability. It must not be allowed to go untreated for long. The most effective form of therapy seems to be intra-articular injection of a mixture of 1 ml hydrocortisone solution in 4 ml local anaesthetic. This should be immediately followed by putting the joint through its full range of movements. Treatment by ultrasonics will help to maintain the increased range of joint activity.

Morale

I have commented how a hemiplegic patient may easily become morose and depressed. Special efforts should be made to give him every encouragement. He and his family should be told that the leg usually recovers more quickly than the arm. They should also learn that improvement may continue for at least 18 months after the stroke. The more the patient tries to do for himself, the better will be his chance of recovery. But it must also be remembered that a number of "gadgets" can help him to compensate for his disability: things such as a Nelson knife, may make all the difference to his eating habits, for instance. In fact, it is almost true to say that there is now a

special tool or adaptation for every common lesion. Hence the help of an occupational therapist is of great value.

Contractures

In certain hemiplegic patients the tone in the flexor and adductor muscles is too great for the extensors and abductors. This may sometimes result in joint contracture. Hence every attempt must be made to promote extension and abduction of the affected limbs. Drug treatment is of limited use in these cases, though dantrolene may be used in doses increasing from 25 mg to 100 mg five times a day. In any case, great care must be taken to avoid injury or abrasion to the affected parts, since healing is always poor and chronic ulceration not uncommon. A contracted limb is a great handicap.

Conclusion

A stroke is always a great shock, both physical and psychological, to anyone. There is little place for drugs in treatment. Most of the improvement possible must come from the efforts of the patient himself. He should be given every available help and encouragement to guide and help his progress. To discard such a case too early is culpable negligence.

Reference

- ¹ Exton-Smith AN, Crockett DJ. Nature of oedema in paralysed limbs of hemiplegic patients. *Br Med J* 1957;ii:1280-3.

(Accepted 30 January 1984)

USSR Letter

Surgeons in the fields

MICHAEL RYAN

In many countries factors such as financial disincentives and professional opposition inhibit the employment of doctors for activities which have no connection with health care. In the Soviet Union these economic and political constraints effectively ceased to operate as a "new society" came into being—or was imposed by the Bolshevik rulers. And even today, when the potential of medical science is so much greater than in the 1920s, the work of rank and file Soviet doctors is often far from specific to their occupation.

Like other white collar (and manual) workers, they will make an additional contribution to the national productive effort by fulfilling what are termed "socialist obligations." The essential function of these, as outlined by the *Large Soviet Encyclopaedia*, is "the fulfilment and overfulfilment of state plans for the development of the economy, cultural construction, and enhancement of the workers' well being." Clearly intended to make available additional manpower, this system results in medical personnel being commandeered for various types of manual labour in agriculture and elsewhere.

Disclosures in "Izvestia"

The disruption and potentially lifethreatening dangers which this arrangement causes in the health service were vividly illustrated by a series of complaints contained in two articles published recently by the newspaper *Izvestia*.^{1 2} Perhaps the first point to emphasise is that the topic achieved prominence not because of some attempt by doctors to enhance their status but because of "whistleblowing" by an aggrieved patient.

Writing from Novosibirsk, a woman "veteran of labour" complained that her planned admission to No 1 railway hospital there had been postponed because, as she was told, "many doctors had left for the potato and carrot harvest." Only the most urgent cases could receive treatment and the surgical ward had no vacant beds since there was no one to prepare patients for discharge. Though accepting that climatic conditions in Siberia made it essential to bring in the harvest quickly, she questioned whether it was proper to "ravage our hospitals and occupy in the fields doctors whom people need on a day to day basis."

Below that letter *Izvestia* printed a commentary by their local reporter, who had been sent to investigate. Confirming that operation days had been altered in the hospital and part of the associated polyclinic closed because of the labour order, he stated that doctors had worked in the rain, got chilled, and caught colds, with the result that they were slow to restart their normal pattern of work. Far from outraged at this state of affairs, however, the hospital's senior staff had become resigned to it. One deputy head doctor disclosed that during the previous three years all the hospital's doctors and nurses without exception had been required for harvesting. A second pointed out that the problem did not end there: "In the summer two of our surgeons spent a fortnight repairing a cowshed at the 'Bolshevik' collective farm."

No mention is made of the hospital's having protested over this misuse of their skilled personnel and it is revealing that when *Izvestia*'s reporter telephoned the "Bolshevik" he found that the chairman "was contrite." A very different attitude was displayed by the director of the "Railway" collective farm, who said bluntly that during vegetable harvest there was no time to consider who might be exempted. By way of riposte, the reporter asks whether he would have been so absolute if he too had had to wait for an operation, and goes on to imply that medical services have a vitally important economic function in maintaining the human factor of production. To be precise, he cites the formulation of the nineteenth century radical Nikolai

Centre of Russian and East European Studies, University College of Swansea, Swansea SA2 8PP

MICHAEL RYAN, PHD, lecturer in Soviet social policy