PHYSICAL MEDICINE AND REHABILITATION: NEW AIMS IN TREATMENT

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Advances in modern medicine and changes in present-day modes of travel and living have wrought concomitant changes in many other spheres. Not least among these is the metamorphosis that has taken place in the field of physical medicine. For instance, that great crippling disease of children, poliomyelitis, has been virtually wiped out. Seriously disabled people such as paraplegics, amputees, and brain-damage cases who were formerly few and far between, are today numerous as a result of motor vehicle accidents. Then there is the growing army of older people whose life expectancy has been extended to well beyond the biblical three-score-years-and-ten, which presents us with a geriatric problem which is becoming more challenging every day.

The New Approach

Because of all these changes, an alteration in our focus has gradually been forced upon us. Today we no longer concentrate our attention only on the main malady for which the patient has been referred. We deal with that, certainly, but we also go beyond it. How, we ask, his illness or injury having been cured or mitigated, is he going to function in other spheres of his daily life? Will he be able to resume his normal employment or will he need sheltered work? How about his economic state? Can he afford the losses inherent in an illness of some duration and will he be able to integrate again into his community, socially, vocationally and economically as a normal citizen, as he formerly was before he was stricken?

It is this aspect, the viewing of the patient, not only as a sufferer of some illness or injury, but as a whole person, which I want to emphasize and to bring home to all colleagues, in whatever branch of medicine their interest may lie. They should not consider their task ended with the cure or relief of the malady for which their patient has been referred—only when he is back in his community as a normal citizen, or as near to that state as possible, should they consider their work at an end and discharge him from their care.

How to do this is the problem which has faced us in our work, and which, by trial and error, we have gradually tried to solve. Admittedly our methods are still not complete or perfect, but our plan is gradually taking shape.[1]

AN ILLUSTRATIVE CASE

It is with the object of demonstrating how this process works that the following case is presented.

The patient, a 54-year-old female primary-school teacher, was first referred on 8 February 1965 with the following information from her ward: 'Acoustic neurinoma removed right side', and with the request that she be given 'stimulation of facial muscles and exercises'. Also included in the prescription was a general request for physiotherapy and occupational therapy.

The Medical Problems

Previous history. For the past 9 years she had been troubled with tinnitus on the right side; this gradually became worse and more persistent. Four years ago she developed deafness in her right ear, becoming stone deaf in that ear during the last 9 months. Headache, imbalance and difficulty in walking, loss of ability to use her right hand in writing, and double and blurred vision followed.

A detailed examination on 25 January 1965 showed a bright and intelligent person, and a careful investigation strongly suggested the presence of an acoustic neurinoma on the right side necessitating surgical intervention. She was therefore admitted to the Neurosurgical Department and on 27 January a large acoustic neurinoma was exposed and removed. She recovered well following the operation, but slight facial weakness noted immediately postoperatively progressed in a short while to marked weakness of her right facial muscles. In addition, when seen in the ward soon after, weakness was present in her right upper and lower limbs and slurring of her speech became apparent.

A detailed examination at this stage showed the presence of: paralysis of her right facial nerve; right-sided hemiplegia, including aphasia; signs of bronchitis; and general weakness following her operation. For these conditions she was put on the following treatment: Electrical stimulation of the muscles supplied by the right facial nerve; massage for these same muscles to improve their circulation; adhesive-tape sling support for the sagging right facial muscles; breathing exercises and coughing to clear her chest; a graduated table of exercises for all four limbs, particularly the paralysed ones; speech therapy; kinetic occupational therapy to strengthen her weakened right limbs and training in the activities of daily living; and referral to the rehabilitation officer of the unit for any assistance she may require during her progress to recovery.

In addition, the following two investigations were put in hand: (*a*) electrical testing of the right facial nerve and muscles to establish a more precise prognosis concerning their recovery; and (*b*) socio-economic investigation to ascertain her ability to stand up to the social and particularly economic stresses inherent in such a severe illness.

On 17 March she was seen again before leaving on holiday. She then showed the following: Complete paralysis of the right 7th nerve; right-sided hemiparesis; mild aphasia; right tarsorrhaphy; and deafness and tinnitus in her right ear.

The Socio-economic Problems

She was reviewed at the weekly Board Meeting of the staff of the Rehabilitation Clinic on 24 March 1965, when the above findings were confirmed and a report on her socio-economic condition was presented, which showed that she taught in a school of the Transvaal Department of Education in Johannesburg at a monthly salary of R230. Other sources of income consisted of a contribution of R29 per month from a sister who boarded with her, and a further contribution of R13 per month from her mother, an old-age pensioner, who also boarded with her. She was divorced and had 4 married children. An enquiry elicited the information that the utmost support she could expect from her 4 children was R40 per month. She lived in her own house which, however, had a bond on it, reduced by her at the rate of R40 per month. She was on sick leave from her school and at that time was therefore still on full pay. This leave and sick pay would come to an end, however, in a few months. She had no other money or resources of any kind, and was anxious to resume work if at all possible.

She was again reviewed 1 month later, on 24 April 1965, when her general condition, the right hemiparesis, and her speech, were found to be improved, but her facial nerve paralysis, her deafness and tinnitus were *in statu quo*. Her imbalance was now only slight. Her sight, however, was causing her trouble and she had much difficulty in reading.

On 26 June 1965 a further review showed that she had made considerable progress: Her general condition had improved greatly, her right hemiplegia had recovered almost completely and so had her balance, and her speech was almost normal. Her right-sided deafness and tinnitus, however, remained unchanged. The paralysis of her face also remained virtually unchanged and an electrical test showed that a reaction of degeneration was present. Her right eyelid was still stitched and she still found reading very difficult. She had been taught in the Occupational Therapy Department and was, in consequence, self-reliant and well able to look after herself. However, her sick leave on full pay would soon come to an end, after which she would be on half-pay for 3 months. At the end of this period her income would cease.

The Problems Analysed

Her condition at that time posed various problems since her right face was still paralysed and the question of a nerve graft to improve this was under consideration. Economically her condition was rapidly deteriorating, unless she was able to resume work. Vocationally she was also in much difficulty because, aesthetically, the paralysis of the right side of the face would militate against her being acceptable as a teacher for young children and her vision defect made reading very difficult and formed another bar to her resuming her post as a teacher.

In analysing the position it seemed clear that two approaches were indicated in order to help her: Firstly, the paralysis of her facial nerve had to be dealt with. By this time her face was considerably distorted: the tissues on the right side had drooped markedly, particularly around the angle of the mouth. On the left side, the muscles, lacking the normal tension afforded by those on the right side, had contracted up considerably, pulling the angle of the mouth upwards and outwards. Her face thus assumed an unsightly appearance of considerable degree. To improve this, two courses were open: either to continue conservative treatment as outlined above in the hope that the facial nerve would regenerate with time, or to proceed to a hypoglossal-facial nerve anastomosis. In either case, should electrical tests show that such recovery of the facial nerve was taking place, it would take months before any great improvement in her appearance would become evident.

Secondly, and while such expected regeneration of the facial nerve was taking place, there was the urgent necessity of finding her a suitable job so that she could earn enough to live and meet her commitments.

Plans for a Solution

With regard to the first of these, the clinical examination as well as the electrical tests, including electromyography, showed that no regeneration of the facial nerve was taking place. The decision to do a nerve anastomosis was therefore taken, and on 7 July 1965 this was carried out, the hypoglossal nerve being anastomosed with the facial nerve. Thereafter, the electrical treatment previously administered for the paralysed facial muscles was again resumed.

With regard to the problem of finding her suitable employment, this posed considerable difficulty. The Principal of her school had already informed her that apart from teaching posts, no other suitable positions were available in his school. A decision was therefore taken to approach the Department of Education in Pretoria, either to find her a suitable post not involving teaching, e.g. as a clerk or librarian, or to grant her 12 months leave without pay, if necessary, to permit her to seek work outside the De-

partment. In the latter contingency, the Department of Labour would be requested to assist her in finding such employment.

In preparation for her possible resumption of work, a psychological test was carried out. This showed that she had a fairly good IQ (112) but a certain degree of deterioration, some difficulty in spatial organization and a lack of facility to put her thoughts into proper words became evident. A psychiatric investigation was therefore instituted: This did not indicate brain damage, and therefore there was no real reason why she should not be able to take up a suitable clerical post in the open labour market.

Meanwhile, her position in the Department of Education in Pretoria was investigated with the following result: Her leave on full pay would end at the end of August 1965. Thereafter, she would be on half pay until the end of November, when her further remuneration would cease. At the end of November also, if she had not recovered, she would have to resign her post as medically unfit. By that time she would have been 17 years in the Transvaal Department of Education and would therefore qualify for a pension. The Department would then deal with her pension as follows: A part of the capital sum would be used to pay off the bond on her house. The rest would serve to give her a monthly income of about R40 per month. Should she recover at a later date sufficiently to resume teaching, she could return to the Education Department as a teacher but at a lower salary grade.

It would seem, therefore, that at the end of this year, it was likely that she would have lost her post as a teacher, but that she would have a house free of encumbrances. In addition, she would have an income from all sources, including from her children and boarders, of approximately R120 per month. She would, however, be free to take some other employment to enhance her earnings.

THE NEW AIM—REHABILITATION OF THE TOTAL PERSON

Throughout this very trying and difficult period she received constant advice, support and assistance from the various staff members of the Rehabilitation Treatment Clinic. Frequent discussions took place and many suggestions were put forward on how to alleviate her admittedly difficult position. The rehabilitation team, while making every effort to restore her to health, in addition tackled the problem of launching her again as a normal citizen, socially, vocationally and economically rehabilitated. Thus, instead of her standing alone to face a difficult position, she had a team skilled in many disciplines to ease her road back to as useful a life as any disabilities she may finally be left with, will allow.

The Doctor's Extended Function

It is this bridging of the gap between the end of the medical treatment and the restoration of the patient to normal citizenship which I wish to stress. This, too, must be assumed by the doctor as one of his everyday functions. It must be emphasized that he should not consider his case completed until this last important hurdle has also been safely negotiated.

REFERENCE

1. Johannesburg Hospital Rehabilitation Treatment Clinic (1962): Med. Proc., **8**, 182.