

# OBSERVATIONS ON THE TREATMENT OF MULTIPLE SCLEROSIS WITH PROPER-MYL

Preliminary report on a small series of cases of multiple sclerosis  
treated with lyophilized yeasts, in general practice

C. B. L. HART, M.R.C.S., L.R.C.P.

Prescot

The disease of multiple sclerosis has long been a most debatable subject, particularly in respect of the aetiology. The various treatments suggested and tried for this condition are controversial indeed. Many therapeutic measures have been tried, some with initial success, but most falling into disrepute or disuse for one reason or another. The lack of adequate therapy must be related to the varying information and theory with regard to the causative factor of the disease. An attempt is made here to discuss some of the more recent information on the subject and to try to correlate this work with a small number of cases treated under general practice conditions, which is perhaps the simplest form of clinical trial, without laboratory facilities, specialized knowledge and technique, and without obvious danger to the patient.

Recent reports on the disease submitted by Paul Le-Gac<sup>1</sup> and <sup>2</sup> on the aetiology and treatment, have been of interest in that he suggests a virus infection as the probable causative factor of the condition. He suggests that the rickettsial or neo-rickettsial group is responsible initially, and that multiple sclerosis is a complication of this infection affecting the vascular system, together with a disturbance of the nutrition of the nervous tissue affected by the vascular changes; this involves two main substances namely oxygen and glucose, producing anoxia and reducing the nerve tissue to a state of slower metabolism.

Ross<sup>3</sup> reported mainly negative results in her studies of C.F. tests for rickettsial antigens in 40 cases of chronic multiple sclerosis, but showed interest in four positive reactions in these patients to antibodies of psittacosis-lymphogranuloma, and suggested further

studies of reactions to antibodies of herpes, mumps and psittacosis-lymphogranuloma. Because of the negative findings to Le-Gac's reported results she did not support the use of antibiotics in the therapy of multiple sclerosis.

Le-Gac's treatment consists briefly of:—

- (a) Neutralization of the virus —by high dosage of broad spectrum antibiotics.
- (b) Elimination of toxins and waste products —by means of hot algae baths, etc.
- (c) Stimulation of the cardiovascular system —by cardiac stimulants.
- (d) Restoration of general state of health —by use of calcium, testosterone propionate and in certain cases with steroid therapy.
- (e) Treatment of after-effects —by use of physiotherapy and allied aids.

This treatment is expensive and can only be carried out in a special clinic or hospital.

Professor Gastaldi<sup>4</sup> of the Clinic of Mental and Nervous Diseases, Milan University, from an idea and incidental observation of Garagnani in 1919, decided to use Proper-Myl on some of his established cases of multiple sclerosis. In his pre-publication report 1961 he gave details of 20 cases treated up to a period of 30 days, and reported beneficial results in all cases. It would be expected that his later report on these particular cases would show entirely different results to those obtained after so short a time of usage of the drug.

### Product and Method

The product used in this series was Proper-Myl, which is prescribed in 5 ml. vials of dried lyophilized yeasts, each containing 10,000,000 yeast cells equivalent to approximately 10 mg. of dried proteins. The yeasts contained are *Cryptococcus albidus*, *Candida tropicalis* and *Saccharomyces cerevisiae* var. *ellypsoides*, in equal amounts. 5 ml. of solvent is supplied with the vials. The yeast is administered by intravenous injection of made up product and is given as follows:—

1st day	0.10 ml. to 0.20 ml.
2nd day	0.20 ml. to 0.30 ml.
3rd day	0.30 ml. to 0.50 ml.
4th day	0.50 ml. to 0.70 ml.
5th day	0.70 ml. to 0.90 ml.
6th day	0.90 ml. to 1.20 ml.
7th day	1.20 ml. to 1.50 ml.
8th day	1.50 ml. to 1.80 ml.
9th day	1.80 ml. to 2.10 ml.
10th day	2.10 ml. to 2.40 ml.
11th day	2.40 ml. to 2.70 ml.
12th day	2.70 ml. to 3.00 ml.

13th day	3.00 ml. to 3.30 ml.
14th day	3.30 ml. to 3.60 ml.
15th day	3.60 ml. to 3.90 ml.
16th day	4.00 ml. to 4.30 ml.
17th day	4.25 ml. to 4.50 ml.
18th day	4.50 ml. to 4.75 ml.
19th day	4.75 ml. to 5.00 ml.
20th day	5.00 ml.
21st day and after	5.00 ml. dosage up to 50 consecutive days.

Gastaldi used dosage commencing at 0.1 ml. and increasing by 0.1 ml. daily up to 5.0 ml. I found that tolerance to the injection was excellent and the dosage suggested above can be given with safety.

At or about the 4th or 5th injection a rise in body temperature up to 101° F. in all cases was noted; this subsided after 24 hours, and it was found prudent to miss out the increase in dosage during this reaction.

The 5.0 ml. injections are continued up to 50 consecutive injections, including the 20 or 21 days taken to build up the dose, and then the number of injections are reduced to 4 to 5 weekly for a further 25 injections, and then to 2 or 3 weekly for maintenance purposes. This suggested regime can be varied considerably after the first 50 doses, according to the needs of the patient, and the convenience of arrangements for giving injections, as this can often present some difficulties in general practice.

After 100 injections it is suggested that a rest period of 4–5 weeks be given followed by continuation of full dosage 2 or 3 times weekly.

Treatment is still continuing in all but 2 of the following cases at the rate of 2 injections weekly.

**Case 1.** Female aged 45 years, two children. Disease first noticed 23 years ago at age of 22 years, followed by remissions for 19 years, marked reactivation of condition at age of 41 years with rapid development to almost complete paralysis, the patient was becoming even unable to sit up for long periods and even the effort of dressing herself was too much for her. Treatment began in December 1961 and is continuing. Over 200 injections have been given with no ill-effects of any kind, apart from the temperature rise mentioned above.

Her condition to date is materially improved; ambulation is better and can be maintained for long periods, bending, sitting and rising is more normal, and accomplished alone. Her balance and co-ordination is improved. Her speech is about normal again, her bladder control is improved, and her general health and vitality is very good. She is able to do her own washing and light housework, and her mental depressions have decreased considerably. Ankle and knee clonuses are decreased markedly. There is still room for improvement in ambulation and her vision is unchanged. There has been no progress in the course of the disease at all since treatment commenced.

**Case 2.** Female aged 55 years, two children. Disease thought to have started in 1948 at age of 41 years, with loss of use of one side of body and loss of sight in one eye. Spontaneous remissions for 6 years. Disease started again with dragging of legs, loss of balance and co-ordination and poor bladder control.

Treatment began in December, 1961 and continues.

*Condition to date:* Ambulation much improved, now able after many years to go out shopping alone. Co-ordination and balance much improved. Bladder control improved. General stamina and energy improved considerably—does not so easily tire as before. Mental depressions have almost gone and she is much more alert and able to do her housework.

No progress in course of disease since December 1961.

**Case 3.** Female aged 56 years, two children. Disease started at age 26 years with loss of power in both hands, transient with remission for 10 years, began again at age of 36 years with gradual progression to paralysis of both legs and almost complete paralysis of hands and arms with extreme mental depression. Treatment began in January 1962 and continues.

*Condition to date:* Mental depression is now almost gone, patient feels much happier and more alert and responsive, energy much improved and she can move about the house much easier. She can now move herself in bed and can turn over in bed unaided. Hand and arm movements are improved with right hand back to normal (this hand was last to be affected by course of the disease). She is able to knit and sew and can assist with the housework including the weekly wash. Her lower limbs are much straighter in appearance and her feet which were formerly deformed due to muscle spasm are now normal in appearance. Ambulation is not improved.

No progress in course of disease since January 1962.

**Case 4.** Female aged 50 years, two children. Disease said to have started 12–15 years ago with gradual slow deterioration. Case complicated by presence of pernicious anaemia and oesophageal varices with recurrent attacks of haematemesis.

Disease affected lower limbs, balance and co-ordination, sight and speech. Patient lost sight of one eye about 1 month before treatment commenced.

Treatment commenced January 1962 and ceased April 1962 due to distance of patient's residence and lack of assistance for follow up.

*Condition on cessation of treatment.* Sight restored in the eye. Speech improved and general condition improving. No progress in ambulation or balance, but general stamina and energy improved. Severe haematemesis in March 1962, but treatment not discontinued.

No progress in course of the disease during treatment.

**Case 5.** Female aged 51 years, one child. Disease first noticed as young adult, transient, then reappeared at age 37 years, with gradual progress until legs completely paralysed, lack of co-ordination in arms, speech badly affected, bladder control poor. Insomnia and depression very marked.

Treatment commenced in February 1962 and continues.

*Condition to date:* Bladder control improved and patient able to sleep without barbiturates. Speech improved and depression much improved. Patient has more energy and stamina, but ambulation, balance, and co-ordination not improved.

No progress in course of disease since treatment began.

**Case 6.** Male aged 45 years, one child. Disease said to have started at age 33 years with gradual progression to paralysis of both legs, although patient able to move with the aid of two sticks. Temperament affected markedly. Co-ordination of hands and arms poor and patient tired very easily.

Treatment commenced April 1962 and ceased July 1962.

*Condition on cessation of treatment:* Some improvement beginning in hand and arm co-ordination and general energy and vitality, but patient developed three bad head colds during course of treatment and decided not to continue, as he blamed the drug for this. He was also impatient for a "miracle cure".

No progress in course of disease was noted during the short duration of treatment.

**Case 7.** Female aged 35 years, two children. Disease commenced at age 21 years with initial onset of numbness of legs. Some remissions then gradual progression to almost complete paralysis of lower limbs and lack of balance and poor co-ordination in upper limbs.

Treatment commenced March 1962 and continues.

*Condition to date:* Patient shows much more energy and can do her own housework for longer periods, is able to walk better and can now lift her leg when in sitting position, this was not possible previously. She is able to sew and knit again for short periods. Due to domestic difficulties during month of August 1962 patient ceased treatment for 6 weeks and showed marked regression of improvement until treatment re-commenced. No progress in course of disease to date apart from this episode.

**Case 8.** Female aged 49 years, two children. Condition showed deterioration at age 43 years noticeably with loss of use of hands, and poor co-ordination and balance, gradual progress with paralysis of left leg.

Treatment commenced in June 1962 and continues.

*Condition to date:* Some rapid initial improvement in balance and co-ordination but this was not maintained after 3 weeks of treatment until beginning of September 1962, when slow improvement again commenced along these lines. No improvement in any major form but patient says she has more energy.

No progress in course of disease to date.

**Case 9.** Female aged 42 years, single. Disease said to be noticed appreciably at age 35 years commencing with numbness of right leg, 2 years remission, then gradual progression with poor balance and co-ordination, lack of energy, difficult ambulation and severe headaches.

Treatment commenced in June 1962 and continues.

*Condition to date:* Patient now feels much better in general health, severe psoriasis has nearly cleared. Some improvement in co-ordination and balance and ambulation. Patient does not tire as easily, and severe headaches no longer present.

No progress in course of disease to date.

## Discussion

With the work of Le-Gac, Gastaldi, Ross and the results of this series in mind the following facts appear to be relevant in the diag-

nosis and treatment of the disease:—

(a) Although initial response to injections of Proper-Myl was in nearly all cases very good, it may well be that this was due to an auto-suggestion of feeling better on the part of the patient concerned. It is a common occurrence that most forms of new therapy will produce a feeling of well-being particularly if they hold any hope to the patient of a "cure". The long-term response is far more interesting and informative.

(b) The product is extremely well tolerated, if treatment after the first fifty injections is regulated to the needs and response of the individual patient.

(c) Administration is simple and can be adapted to suit the contingencies of general practice.

(d) There are very few side effects. Case 4 which showed least toleration had a multiple pathology. In case 6 treatment was discontinued before a fair judgement of side-effects could be reached. All other cases showed little or no side-effects, and they were well-satisfied with the ease in which the product was assimilated.

(e) No progress in the course of the disease itself was noted in any case receiving treatment.

(f) Although all the cases were of long standing, some improvement in symptoms and signs was noted in all but cases 6 and 8. Case 8 is now showing some improvement in general health but requires much longer duration of treatment before final judgement can be made.

If there are justifiable grounds for the theory that multiple sclerosis is of virus origin, and assuming this to be of value in the diagnosis and treatment, then the findings of Le-Gac, Gastaldi and to a small degree the above series, would seem to offer some progress.

It is urgently suggested that the diagnosis of multiple sclerosis be of prime concern to the general practitioner and to the consultant when the condition first arises. This would appear to be at a very much younger age group than that given in most standard text-books. It is suggested that the diagnosis of multiple sclerosis be looked for in the differential diagnosis of transient central nervous system signs and symptoms in the young adult, particularly if preceded by a virus infection even of a simple nature. Much more work is needed to isolate and confirm the virus or viruses which may be initially responsible, but this does not

invalidate the suggestion that thought be given to multiple sclerosis in a much earlier age group particularly in regard to diagnosis, and that treatment of this group combining high dosage broad spectrum antibiotic therapy to combat possible virus infection, plus Proper-Myl injections to prevent degeneration of nerve tissue, could prove of great interest and value in the control and prevention of the disease. Multiple sclerosis should no longer be regarded primarily as a "chronic disease" but as an acute condition requiring early diagnosis and treatment. In this the general practitioner can play a part.

It is also suggested that the findings of Foster and Horne 1962<sup>5</sup> on the estimation of gamma globulin in spinal fluid could be of value in earlier diagnosis.

The treatment of "chronic" cases by Le-Gac and Gastaldi has been made under strict hospital or clinic control, with adequate serological studies and laboratory assistance. Le-Gac's treatment also relies on many and varied techniques which are expensive and only related to special clinics. His results show a better response in early cases and this may be due to the fact that antibiotic therapy is more justifiable where virus infection may still be active, than in late cases where any infection must long since have been burnt out. In these cases the symptoms and signs due to disturbance of nutrition of nerve tissue would appear to respond much more readily to treatment aimed at restoring metabolism to these tissues and the results obtained by Gastaldi, and in this series, would appear to justify the use of lyophilized yeasts as an aid to that restoration. It is not suggested that dead or degenerated nerve tissue may be restored but it is interesting to note that in most treated cases the disability last to appear in the progress of the disease is the first to improve under treatment, and it may well be that partially damaged nerve tissue could be recovered in this way.

This simple therapy need not be limited to specialized clinics, as the large margin of safety in the use of Proper-Myl gives ample opportunity for the general practitioner to try out this method not only in the "chronic" case where even slight improvement is a definite advance in therapy, but also in the early case where long-term observation must assist in the development of any treatment.

### Summary

A series of nine cases of multiple sclerosis of long standing treated under general practice conditions with Proper-Myl (lyophilized

yeasts) is presented. This shows the possibility of some improvement in symptoms and also the likelihood of halting the progress of the disease in these "chronic" cases. It is discussed and suggested that more attention be paid to diagnosis of the disease in its possible "acute" phase in early adult life, and that treatment be initiated at this time. It is also suggested that the general practitioner can play a much larger part in the diagnosis and treatment of these "acute" cases; as well as the treatment of the established "chronic" case.

#### Acknowledgements

I should like to acknowledge and thank C. D. Jenkins, F.P.S., F.R.I.C. of Consolidated Chemicals Ltd., for the supply of Proper-Myl used in this study.

I should also like to thank my colleagues in general practice in St. Helens, Lancs., for their kind co-operation and loan of their patients, in particular Dr Wallis Aslett for his initial encouragement and help.

#### REFERENCES

1. Le-Gac, Paul (1960). *J. med. Bordeaux*, **137**, 341.
2. Le-Gac, Paul (June, 1960). *J. med. Bordeaux*, **137**, 577.
3. Ross, Constance A. C. *Brit. med. J.*, **1**, 1523.
4. Gastaldi, 1961. Preliminary Report on Treatment of Multiple Sclerosis with Proper-Myl injections.
5. Foster, J. B. and Horn, D B. (June, 1962). *Brit. med. J.*, **1**, 1527.

---

"All drugs have psychological effects—senna and digitalis, chlorpromazine and chlorothiazide. Such effects fall into two main categories, pharmacological and non-pharmacological.

All drugs have significance as part of the transaction between doctor and patient, an implied promise (or sometimes threat) to change the condition of the sufferer; and this non-specific effect may enhance or oppose the primary medicinal intention. The means by which such a change is brought about, however, do not immediately involve interaction between the substance and any of the metabolic processes of the body; although chemical changes accompany mental events, those that follow the administration of a drug in its symbolic capacity are, to begin with at least, not dependent upon its chemical composition."

C. R. B. Joyce, M.A., B.Sc., PH.D. *Current Medicine and Drugs*—1962, 2, 33.