A Trial of Evening Primrose Oil in the Treatment of Chronic Schizophrenia

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Abstract

Evening Primrose Oil with supplements was administered to thirteen chronic schizophrenics on a double blind cross-over basis. No significant therapeutic effect was found but there is a possibility that the EPO strategy potentiates the epileptogenic properties of the phenothiazines.

D. Horrobin's proposal that there may be a deficiency of prostaglandin El (PGEl) in schizophrenia (Horrobin, 1977; Horrobin, Ally et al., 1978) has, to some extent, found confirmation in the finding that PGEl stimulated ^{3}H-adnosine 3'5'-cyclic monophosphate (^{3}H-cAMP) accumulation in platelets from schizophrenics was significantly reduced compared with control subjects (Rotrusen et al., 1980).

The biosynthetic pathway involved in the formation of PGEl requires vitamins B3, B6 and C together with zinc in addition to a source of linoleic acid (LA) and gamma-linolenic acid (GLA). Evening Primrose Oil is a rich source of fatty acids containing 72 percent LA and 9 percent GLA. The only other substantial source of GLA is human milk. An appropriate strategy for treating schizophrenia might therefore involve giving EPO together with supplements. Vaddadi (1981a) has explored this possibility and found that EPO produced noticeable improvement in some patients, the effect being especially marked in those within five years of their first diagnosis.

We have aimed to further explore the role of EPO and supplements in schizophrenia.

Method

The study population consisted of chronic inpatients or day patients with a diagnosis of schizophrenia based on Feighner criteria. This population had been stabilized on medication but such was the severity of the illness that total independent functioning was not possible despite long term drug and social treatments. None of the patients suffered from significant physical illness nor showed clinical evidence of malnutrition or vitamin deficiency.

Twenty-three patients, who gave their informed consent, entered the trial which was a double blind cross-over design using each patient as his/her control. Three patients developed grand mal seizures and a further three were eliminated because of a

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past history of fits. Two patients did not comply with medication and two others moved out of the hospital area and became lost to follow up. The mean age of the remaining 13 patients was 44.5 years (8 men, 5 women) and the mean duration of their illness 11.8 years. Ten of these 13 patients received EPO and supplements or identical placebos for four months with a two month wash out period at cross-over. The remaining three were treated for two months only during each phase of the trial. The active treatment consisted of Efamol capsules — 8 per day — and Efavite tablets — 8 per day. This provided: EPO 4 g, vitamin E 40mg, vitamin C 1000mg, B6 200mg, B3 200 mg and Zinc Sulphate 40mg. Patients were evaluated at 0,2,4,6,8 and 10 months using the Brief Psychiatric Rating Scale (Overall and Hollister) and the MACC Behavioural Adjustment Scale. The latter provides a measure of social contact, co-operation, communication and mood in every day ward behaviour.

Results

Mean scores during active and placebo treatment periods were compared with a one tailed Mann Whitney U Test. The scores are shown in Table 1. No significant result was obtained at the P=0.005 level of significance. Neither did we form the impression that any individual patients gained benefit from the treatment.

Discussion

This study does not support the view that Evening Primrose Oil with supplements is of value in the treatment of chronic schizophrenia. Advocates of nutritional therapies for schizophrenia usually caution that these therapies are of most value in the early phases of the illness. This may well be the case with Evening Primrose Oil but confirmation of this will rely upon suitable prospective studies.

We do think however, that one possibly significant fact emerged from this study. Two of the three patients who developed seizures during the course of the study were on active substance and this may be significant in view of Vaddadi's finding (1981b) that EPO may exacerbate or unmask the symptoms of Temporal Lobe Epilepsy.

The first patient was a 43 year old man with a ten year history of schizophrenia who was taking fluphenazine decanoate 50mg fortnightly. After 12 weeks on active substance he had one grand mal fit. There was no previous history of seizures and after withdrawal of EPO he had no further fits during the succeeding seven months. The second patient was a 50 year old man with a 36 year history of paranoid schizophrenia.

Mean ranked scores of 10 patients over 4 months rated on MACC.

Active	70.0	66	64	63	59	54	51.5	48	45	42.5
Placebo	65	64	63	58	55	51	50.5	50	48	45

U = 45
Not significant at P=0.05 level.

Mean ranked scores of 10 patients over 4 months rated on B.P.R.S.

Active	29.0	28.5	22.3	20.1	17.3	12.7	11.0	8.3	7.3	5.7
Placebo	28.0	22.7	21.5	17.1	15.0	14.3	14.2	11.0	8.8	8.5

U = 47.5
Not significant at P=0.05 level

Mean ranked scores of 13 patients over 2 months rated on B.P.R.S.

Active	28.75	27.25	26	24.75	19.75	19.25	13.5	12.0	11.0	11.0	8	7.0	7.7
Placebo	31.5	30.5	21.75	21.5	19.5	19.25	18.5	15.0	13.0	10.5	10.25	9.75	9.5

U = 77.5
Not significant at P=0.05 level.

He was taking fluphenazine decanoate 25mg fortnightly and Thioridazine 200mg q.d.s. After 12 weeks on active substance he became more agitated and uncooperative and his Thioridazine was changed to Chlor-promazine 200mg. t.d.s. Two weeks later he had two grand mal seizures and EPO and Chlorpromazine were stopped. He continued to be aggressive however and subsequently developed daily bouts of grand mal seizures which proved difficult to control. He was transferred to a neuropsychia-tric unit where his fits came under control. A further perusal of his history revealed that he had had grand mal seizures 8 and 16 years previously when given Chlorpromazine. It was striking however that on this occasion his fits proved so refractory to treatment.

None of the vitamins or minerals used in the trial have ever been implicated in lowering the epileptic threshold. It is possible therefore that EPO and supplements potentiate the epileptogenic properties of the phenothiazines.

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