

# A Vitamin B<sub>3</sub> Dependent Family

A. Hoffer, M.D., Ph.D.

## Introduction

*A clinician obtains new knowledge by observing his patients and their families and by profiting by his observations. For this reason striking cases and striking families usually are described for the benefit of the medical profession. These are the anecdotes upon which modern medicine has been built. Occasionally nature demonstrates without equivocation its phenomena as if she demands that the demonstration be taken as seriously as the experiment.*

*The family I will describe is such an experiment of nature. The father, a schizophrenic, and his three children, all schizophrenic, recovered on massive doses of vitamin B<sub>3</sub> and relapse whenever they stop taking an adequate daily dose. They are, therefore, just as dependent upon this vitamin as many diabetics are upon insulin.*

*A dependent condition is one where doses of vitamins are required which are much greater than the vitamin doses required to prevent the classical deficiency syndromes and recommended by nutritionists. This distinction is very important. Physicians accustomed to vitamins as commonly used tend to lump all humans in terms of average need. They need to be reminded that about 5% of any population with respect to any variable are more than two standard deviations from the mean. In short, each patient is an individual for whom*

*average doses are merely crude guides. Each person must be dose titered, i.e., he must be tested by a dose response curve and then given that dose each day which gives him his best state of health with the least side effects.*

## Clinical Observations

Mr. E. S.

In 1954, Mr. E. S. began to suffer repeated episodes or "spells" of a peculiar type which he could not describe. He was admitted to University Hospital for treatment from February 26 to April 10, 1958, where a thorough investigation failed to yield any reason for his complaints. These peculiar episodes tended to come when Mr. E. S. was amongst people at times when he was very anxious. He described them as a feeling of boiling up inside during which he was weak and faint. His eyes went haywire and he felt a surge of something flash through his head. (Later he discovered these were transient mini-psy-chotomimetic experiences.)

The psychiatrist described this patient as an aggressive, very successful, very intelligent business man who had no interest

in anything but his business. He was diagnosed as an obsessive compulsive neurosis with a paranoid personality.

Fortunately for Mr. E. S. he also had hypercholesterolemia (345 mg. per 100 ml. of blood) and several troublesome xantho-matoma on his eyelids. At a teaching conference the majority of physicians present agreed with the therapist who presented the case but one psychiatrist supported me in my view, Mr. E. S. was a paranoid schizophrenic. I suggested he be given nicotinic acid 3 gm. per day to lower his cholesterol (pointing out this would also remove his paranoid personality).

While in hospital he fell in love with an alcoholic patient who had been given treatment with LSD-25 as a psychedelic. She was then married to a psychopathic man from whom she had separated and intended to divorce. Mr. E. S.'s psychiatrist tried to break up the romance because he and other members of the staff concluded this romance could only be harmful to both. Mr. E. S. had also been separated from his wife because they were incompatible.

While in hospital Mr. E. S. reported that his daughter, of whom he was very fond, was normal but his son was a difficult and irresponsible alcoholic.

The discharge prognosis was pessimistic and the therapist reported to the referring physician that there would be no change in Mr. E. S.

The patient continued to take nicotinic acid (3 gm. per day) regularly, developed no more xanthomata and lowered his cholesterol blood levels to normal. He also remained free of spells and slowly found his personality began to change. He continued his romance; divorced his wife amicably, leaving her well provided for, and planned to marry again.

In March, 1960, he consulted me. Until then I had no personal contact with him and as far as I knew he had never been informed of any diagnosis. He knew that the nicotinic acid was

recommended only to lower blood cholesterol which he knew it had done very effectively.

He asked me what his diagnosis was. I replied that in my opinion it was paranoid schizophrenia. He immediately relaxed, slapped his thigh and exclaimed, "I knew it!" He added that he had read as much material as he could get on psychiatry and had himself concluded he must have schizophrenia. He was not pleased with his tendency to view people with suspicion and wished to be rid of this symptom. The woman he intended to marry had described her psychedelic reaction and how it had been beneficial for her and he hoped I would let him have a similar experience.

Schizophrenia, uncontrolled, was one of my contraindications to giving anyone treatment with LSD, but, as he had been much improved for nearly two years and regularly took nicotinic acid in anti-hallucinatory doses (Agnew and Hoffer<sup>1</sup>), I concluded this could be done with safety in hospital. On March 22, 1960, he was given a psychedelic treatment with 300  $\mu$ g of LSD-25.

The next day he was very enthusiastic about it, especially because he was able at last to describe the episodes from which he had suffered for four years. He said they were identical with some of the LSD experiences. In other words, he had been experiencing minor and transient perceptual changes which were like the ones he had seen under LSD.

When free of his LSD experience he completed two HOD tests (see Table I), one retrospective for his condition in 1958 and one for his present state (four weeks after LSD).

TABLE I

|      | <i>Total<br/>score</i> | <i>Perceptual<br/>score</i> | <i>Paranoid<br/>score</i> | <i>Depression<br/>score</i> |
|------|------------------------|-----------------------------|---------------------------|-----------------------------|
| 1958 | 51                     | 18                          | 4                         | 15                          |
| 1960 | 17                     | 9                           | 0                         | 5                           |

The patient has remained well and, as will be shown, was directly responsible for the successful treatment and recovery of his two children from his first wife and his daughter from his present wife. In addition, he has been providing help to a large number of other schizophrenics in his community.

In June, 1970, he was normal and I advised him to reduce his nicotinic acid to 3 gm. per day from 6 gm. to determine if this would maintain him. One month later he was moderately depressed and fatigued. His dose was increased to 6 gm. per day which he will now take the rest of his life.

### Mr. D. S.

Mr. D. S. (Mr. E. S.'s only son) began to develop many unreasonable fears at age 16. Shortly, he became an alcoholic. But he completed Grade 10 in school and worked with his father until he was 24. There was continual friction and difficulty between father and son. Mr. E. S., when he recovered, accepted responsibility for much of this. In 1959, Mr. D. S. began to drift from place to place and job to job—meanwhile continuing as an alcoholic.

Due to his father's persuasion he came for treatment of his alcoholism, expecting LSD. He was positive for malvaria (Irvine<sup>2,3</sup>; Hoffer and Mahon<sup>4</sup>; Hoffer and Osmond<sup>5</sup>), which is another contraindication for LSD-25 therapy. But because he had come a long way and had expected so much relief from it, he was treated on April 21, 1960, with 300 ug. Careful examination before this showed he was a paranoid schizophrenic with many visual and auditory hallucinations even when sober. During the LSD-25 session, he again suffered auditory hallucinations.

He was started on mega doses of nicotinic acid, 3 gm. per day, and discharged. He was somewhat better and remained abstinent for a few weeks but then reverted

Psychiatrist (private practice)  
1201 CN Towers  
First Avenue South  
Saskatoon, Saskatchewan  
Canada



to his previous pattern. In my experience alcoholic schizophrenics are not helped by psychedelic therapy until their schizophrenia is controlled.

He returned for treatment of his schizophrenia in April, 1961, and was given six electroconvulsive treatments and his chemotherapy was adjusted. After discharge he continued to suffer many difficulties and consulted clinics and institutions in British Columbia. But since this discharge he continued to take nicotinic acid regularly and gradually continued to change his personality, repair his numerous marital difficulties and remained gainfully employed. In February, 1969, he became severely depressed and was given another series of ECT. Since then, according to his father, he has been well. His maintenance dose is between 15 and 20 gm. per day.

His HOD scores (Hoffer and Osmond<sup>6</sup>; Kelm, Hoffer and Osmond<sup>7</sup>) are shown in Table II.

TABLE II

|                | Total<br>score | Perceptual<br>score | Paranoid<br>score | Depression<br>score |
|----------------|----------------|---------------------|-------------------|---------------------|
| April 1960*    | 42             | 6                   | 6                 | 16                  |
| April 1961 (t) | 92             | 19*                 | 10                | 15                  |
| May 1961       | 67             | 9(t)                | 11                | 11                  |
| Feb. 1969      | 101            | 20                  | 9                 | 16                  |

\* Before ECT

(t) After ECT

A. Hoffer, M.D., Ph.D.

**Miss J. S.**

Miss J. S. (born in 1927) was well until sometime in 1965, when she became depressed and fatigued. She was seen in the emergency

rooms of the Department of Psychiatry by the psychiatrist who had treated her father. In his letter to her referring doctor he reported:

"As you know very well, the whole S. family are pretty mixed up psychologically, although since Mr. E.S.' admission here in 1958 they have established a reasonably satisfactory *modus vivendi*. The compromise is based on each member carefully controlling feelings while recognizing the weak spots of other members. This need to bottle up her own feelings is inevitably taking some toll of Miss S. She is fearful of the impact of any argument on her father's health; she is fearful that they will die and leave her alone; she is fearful that they may have a serious psychiatric illness like schizophrenia and she herself may get it. She has very little in her own life which is truly her own and feels as a consequence greatly deprived. This was made much worse when her dog died some months ago and I suspect that this animal served a useful purpose in helping her to control her feelings.

"I therefore advised her against the use of any medication directed toward the alleviation of psychiatric symptoms and suggested rather she get a new dog and begin to care for and worry about it rather than herself. I mentioned this to her father and I hope they will be returning home in order to get her a pup."

On returning home she filled the prescription by purchasing a dog, but there was no improvement. She was then given Trifluoperazine 4 mg. per day by her family physician and recovered.

In the spring of 1966 her depression recurred and she was referred to me for examination, April 6, 1967. She complained of a persistent ringing in her ears; obsession with the future and what might happen to her family; difficulty concentrating and reading, and depression and anxiety. She was positive for malvaria. I diagnosed her schizophrenia and started her on nicotinamide—3 gms, ascorbic acid—3 gm. per day and Chlorpromazine—50 mg. per day. By May 4, 1967, she was nearly normal, and on July 28, 1967, was normal with only one fear—a fear her illness would recur.

She was seen again July 10, 1970, and

was even better, stating she had missed no time off work, was sleeping normally, was not depressed and was free of all her former fears. In order to determine her optimum dose of nicotinic acid, it was reduced from 6 gm. to 3 gm. but after a few days her symptoms began to return and she immediately went up to 6 gm. She had not required any tranquilizers for three years. Her HOD scores are shown in Table III.

TABLE III

|               | <i>Total<br/>score</i> | <i>Perceptual<br/>score</i> | <i>Paranoid<br/>score</i> | <i>Depression<br/>score</i> |
|---------------|------------------------|-----------------------------|---------------------------|-----------------------------|
| April 6, 1967 | 45                     | 4                           | 1                         | 11                          |
| May 4, 1967   | 11                     | 0                           | 0                         | 4                           |
| June 2, 1967  | 21                     | 2                           | 1                         | 8                           |
| July 10, 1970 | 9                      | 0                           | 0                         | 1                           |
| Normal Range  | 0-30                   | 0-3                         | 0-3                       | 0-3                         |

Miss S. S.

This girl was born in 1963 to Mr. E. S. and his second wife, both of whom had received pure LSD. She was physically and mentally normal. (In Saskatchewan there are no records of any congenital abnormalities in children born to parents who had received LSD. From 1954 to 1970 more than 2000 subjects had received LSD.)

However, in October, 1968, this girl was referred to me because her parents were convinced she was developing schizophrenia.

She reported that every night she saw a large white, tall ghost—as tall as her room. At first she had been very fearful of this but later she concluded that this was her mother walking through her room with a white sheet over her and there was no reason to be afraid. This ghost often spoke to her and told her she too would become a ghost. She also had visual hallucinations of many deer and foxes in her room. Her parents reported she slept poorly and was disturbed at night. During the day she played with several imaginary playmates whom she saw.

I diagnosed her schizophrenic and started her on nicotinamide 1 gm. each day and ascorbic acid 1 gm. each day. In a few months she recovered and has remained well.

## Discussion

There is little doubt that the father and his three children are all vitamin B<sub>3</sub> dependent. One can rule out those vague factors such as faith, etc., which are so feared by psychiatrists and which comprise a new branch of psychiatry called placedology-

Mr. E. S. did not depend upon faith for he did not know me for two years, and did not know the nicotinic acid which he had taken for nearly two years might have an effect on his "spells." When he decreased his dose from 6 gm. to 3 gm. he had a good deal of confidence in me but still began to

relapse.

Mr. D. S. had little faith in the medication but did take it regularly. As he began to improve his faith became correspondingly greater. Miss J. S. had little faith in the vitamins until she began to improve. After recovering, her faith was high. When the dose was reduced her illness began to re-curr. It is obvious that the placebo reaction is not dose related. This dose response in Mr. E. S. and Miss J. S. is therefore very persuasive against faith as an important variable. Finally, Miss S. S. surely was too young to have any faith in any medication, nor did she believe she had been ill. This leaves the vitamin as the major variable.

There is no doubt this entire family once described as "psychologically mixed up" is now normal and none of the factors said to have caused Miss J. S.'s anxiety seem to be operative; Mr. E. S. is well and by no stretch of the imagination can be termed paranoid; Mr. D. S. is nearly well; Miss J. S. is normal and so is Miss S. S.

This family demonstrates the kind of family described by Heston.<sup>8</sup> A superficial examination of mental state and an exaggerated interest in dynamics led to a diagnosis of obsessive compulsive state in a paranoid personality in Mr. E. S. and an anxiety neurosis in Miss J. S. Mr. D. S. could have been termed an alcoholic psychopath and Miss S. S. emotionally disturbed. But, if major perceptual disturbances (visual and auditory hallucinations) are basic in diagnosing schizophrenia as was described by Conolly<sup>9</sup> and as many psychiatrists now believe, only Miss J. S. had none of these, yet all responded to mega doses of vitamin B<sub>3</sub>. The speed of response was nicely related to chronicity. This is shown in Table IV.

TABLE IV  
RELATION OF RESPONSE TO CHRONICITY

| <i>Age of onset</i> | <i>Chronicity</i> | <i>Rate of response</i> |                |
|---------------------|-------------------|-------------------------|----------------|
| S.S.                | 5                 | Several months          | One month      |
| J.S.                | 38                | 2 years                 | Several months |
| E.S.                | 49                | 4 years                 | 2 years        |

D.S. 16 14 years 5 to 10 years  
Summary

A father and his three children are described. As they are all well while taking mega doses of nicotinic acid, they are diagnosed as a vitamin B<sub>3</sub> dependent family.

## REFERENCES

1. Agnew, N. and Hoffer, A.: Nicotinic acid, modified lysergic acid, diethylamide psychosis. *J. Ment. Sci.* 101:12-27, 1955.
2. Irvine, D.: Apparently non endolic Ehrlich positive substances related to mental disease. *J. Neuropsychiat.* 2:292-305, 1961.
3. Irvine, D.: Identification of kryptopyrole in human urine and its relation to psychosis. *Nature* 224:811-813, 1969.
4. Hoffer, A. and Mahon, M.: The presence of unidentified substances in the urine of psychiatric patients. *J. Neuropsychiat.* 2:331-362, 1961.
5. Hoffer, A. and Osmond, H.: Malvaria: a new psychiatric disease. *Acta Psychiat. Scand.* 39: 335-366, 1963.
6. Hoffer, A. and Osmond, H.: A card-sorting test helpful in making psychiatric diagnosis. *J. Neuropsychiat.* 2:306-330, 1961.
7. Kelm, H., Hoffer, A. and Osmond, H.: Hoffer-Osmond Diagnostic Test Manual. Saskatoon, Saskatchewan, Modern Press, 1967.
8. Heston, L.: The genetics of schizophrenia and schizoid disease. *Science* 167:249-256, 1970.
9. Conolly, J.: *The Indications of Insanity* (1830). Reprinted, London, Dawsons of Pall Mall, 1964.