Orthomolecular Psychiatry, Then, Now and Tomorrow

Harvey M. Ross, M.D.[1]

THEN

In the early 1950's there was little to treat schizophrenia other than heavy doses of sedatives and a few different methods of producing convulsions including electrical, hormonal (insulin convulsive therapy) and pharmacological (metrazol). There were physical restraints called straight jackets roughly comparable to putting on a coat backwards with long sleeve extensions tied from behind resulting in a self hug and immobilization of the arms. For those who needed more control than tying their arms there were full body restraints. Other physical means used to calm violent schizophrenics included hot or cold baths and treatments by jets from strong water hoses. The meek and withdrawn were treated at home, but for those who could not be managed at home there were institutions; public or private. It was in this climate, devoid of adequate treatment, that Hoffer and Osmond first met and through fate found themselves in a relatively remote part of the world; of a like mind; challenged by the obvious need to do something to relieve suffering caused by schizophrenic illnesses. Some work and ideas had been formulated by Osmond and co-worker, Smythies, about the biochemical nature of this illness. Bringing their combined interests and abilities together enabled them to develop the Adrenochrome theory of schizophrenia upon which Megavitamin therapy was born.

The Adrenochrome theory proposes that there is an abnormal chemical produced in the body which leads to the development of schizophrenia. Adrenaline, a naturally occurring hormone, had been produced commercially and was available to administer intramuscularly in cases of overpowering allergic attacks; when the body went into shock; and in some other life threatening situations. It was known that aged adrenaline turned pink. If this pink adrenaline were administered, the patient would have a brief reaction with sensory distortions and thinking resembling schizophrenia. Based on these observations Hoffer and Osmond proposed that adrenaline produced in the body of schizophrenics was metabolized abnormally into the pink adrenaline; the active ingredient being called adrenochrome, resulting in the schizophrenic symptoms.

If the theory were correct and the biochemical abnormality in the schizophrenic resulted in the normal adrenaline being metabolized to adrenochrome which produced schizophrenic symptoms the next question was what to do about it. There were a few criteria which had to be met by any agent used to counteract the effect of the adrenochrome. Besides being effective, it had to be non toxic, readily available and inexpensive. By studying the chemical reactions necessary to convert adrenaline, the helpful hormone, to adrenochrome they determined not only would the reaction of conversion be slowed down but the little adrenochrome produced would be neutralized by using large doses of Niacin or the amide form of niacin, niacinamide, in conjunction with equally large doses of Vitamin C. In the fashion of the times when anything in large amounts was tagged MEGA, megavitamin therapy was born and named.

At first it could not be ascertained that all the criteria were being met; especially safety to the individual. The first trials were administered to patients in the hospital where Hoffer and Osmond were working: patients well known to them who were watched and studied very closely. Fortunately the results of the first few trials were very encouraging. Hoffer and Osmond were then ready to begin con-

[1] 7080 Hollywood Blvd. Ste. 1015, Los Angeles California 90028.

trolled studies of larger numbers of patients. Subsequent studies reinforced their initial impression that a valid treatment had been found for schizophrenia.

One would assume the doors of the medical community would have opened, enabling many schizophrenics to be on their way to a more productive happy life. But this did not happen. Part of the problem was timing. At the same time Hoffer and Osmond were ready to tell the world about their findings, pharmaceutical companies had also been working towards solving problems in their own way. While studying different chemical compounds for their antihistaminic effect, one compound, chlorpromazine, was found to have profound sedative action. This compound was tried on schizophrenic patients and often was found to be effective, eliminating the need for other chemical sedatives and mechanical restraints. In addition some of the disorders in thinking characteristic of the schizophrenic were improved dramatically. The improvement of the thinking patterns characteristic of schizophrenia was a specific effect of the new drug never before seen. Chlorpromazine was the forerunner of this new group of medications called tranquilizers, named originally for their quieting effect but used for their profound antipsychotic properties. In the United States chlorpromazine was introduced under the name Thorazine. Hence the age of the miracle drugs and tranquilizers was initiated. By comparison Thorazine was easier to administer, easier to take and much more dramatic than the therapy called Megavitamin. Thorazine was also easier to understand. People were familiar with medication. Very few were familiar with using vitamins in massive doses as a treatment for illness. When vitamins were used for vitamin deficiency diseases they could be used in very low potency for therapeutic effect. Massive dosage of vitamins was unheard of for any purpose. To think they could be used to treat an illness as serious as schizophrenia was contrary to all thought and experience at that time. In addition, many physicians were of the opinion that schizophrenia had its origins in a disordered psychology produced by the subject's parents, particularly the mother. It was in this setting that Megavitamin Therapy was introduced and remained unrecognized in all but a handful of a few interested physicians in Canada and the United States.

The few physicians who were interested in the discoveries of Hoffer and Osmond met to discuss their experience with this new form of treatment. These physicians not only added new supplements to the program but added further dimension with the introduction of dietary manipulation as an important part of the treatment. Some of the early contributors to the treatment were Cott, Meier, Ward, Pfeiffer, Hawkins, Rimland and MacLean. Under the direction of these physicians and others Megavitamin Therapy continued to grow in its application and positive effects.

TODAY

The present era of Megavitamin Therapy might be said to have begun with the 1968 article in *Science* magazine, authored by Linus Pauling and named Orthomolecular Psychiatry. In the article he reviews the scientific bases for the value of what had been called megavitamin therapy. He had coined a new word termed *Orthomolecular* which literally translated means straight molecules. Orthomolecular Psychiatry is defined as "the treatment of mental disease by the provision of the optimum molecular environment for the mind, especially the optimum concentrations of substances normally present in the human body." It was obvious to the practitioners of megavitamin therapy in the early 1960's that much more was involved in this therapy than the original use of niacin and vitamin C. The practitioners adopted the term Orthomolecular and in 1972 the Academy of Orthomolecular Psychiatry was founded in London with Dr. Linus Pauling as its Honorary President. Present membership is in excess of 250 active members who share with each other and grow in their therapeutic experience. Today Orthomolecular psychiatry uses not only the original large doses of vitamins, but is aware of the need for the optimum quantity of minerals. In addition great emphasis is placed on dietary practice. For some years the effects of refined

carbohydrates on many schizophrenics has been known. Orthomolecular psychiatry goes further by taking into account the possible effect of brain allergies and/or food sensitivities as an important factor in symptom production. In some practice of Orthomolecular psychiatry there is a rea-wakening of the need for attention to the mind and spirit as a part of a complete treatment.

Just as the substances used in the treatment have expanded so have the conditions treated. It was only about 12 years ago that the treatment was confined to the adult schizophrenic. Since then other conditions have responded favorably to the principles involved in Orthomolecular psychiatry, such as the disorders in children, not only schizophrenia, but autism, learning disabilities, hyperactivity and minimal brain disorders which have all shown some response to the Orthomolecular approach. Some who suffer from the neurotic disorders of depression, anxiety and some phobias and panics will respond to Orthomolecular psychiatry.

Although Orthomolecular Psychiatry has been around in one form or another for the past 30 years it still is not widely accepted by the medical community. In 1975, the American Psychiatric Association published a Task Force Report #7 which was generally negative towards Orthomolecular Psychiatry. Hoffer and Osmond published a response to the Task Force Report which was not only critical of the bias of the committee but noted in detail the positive studies ignored by the Task Force Report. Undoubtedly the Task Force Report has had wider circulation amongst psychiatrists than the Hoffer and Osmond response. Clearly, the impetus for wider application of this treatment has its roots in the demands of the general population. As they become more aware of the treatment possibilities, demands made on their physicians have resulted in growing interest amongst doctors. Some physicians have started looking for alternatives to the prolonged use of major tranquilizers which after being in general use for 30 years are beginning to show some serious side effects now recognized prior to this time.

TOMORROW

Growth will take place in many directions. Physicians, as noted, will as a group become more interested in this treatment spurred on not only by their patients' wishes but also by increasing scientific evidence in the areas of the value of the treatment and rationale concerning the theoretical basis of the work. As science progresses to further understand the biochemical subtypes of the schizophrenias, it will be possible to determine through laboratory testing which schizophrenics will respond to Orthomolecular treatments. Within the past few years tests have been developed to help determine the individuals' nutritional needs. More is being learned almost daily.

Hopefully the time will come when Orthomolecular psychiatrists or whatever they will be called at that time, will be able to turn their attention away from finding treatments for illness to determining what keeps a person well. Orthomolecular Psychiatry through its emphasis on providing substances in the optimum concentration which are found in the body will initiate new directions in preventive medicine. Staying well is our best hope.