

Aversion Treatment of Alcoholism: some reminiscences

FREDERICK LEMERE, M.D.

662 Medical Dental Building, University Washington, Seattle, Washington 98101, U.S.A.

Summary

The development of the conditioned reflex aversion treatment of alcoholism at the Schick Shadel Hospital in Seattle, Washington, U.S.A. is reviewed. This treatment is based on Pavlovian principles which must be strictly adhered to if true aversion is to be attained. The unconditioned stimulus (nausea and emesis induced by emetine injection, or painful electric shock) must be timed to coincide exactly with the conditioned stimulus (the imbibing of alcoholic beverages). Aversion alone, however is not enough for a complete treatment program. We have, therefore, augmented this with pentothal interviews and a comprehensive program of individual and group counseling, informational orientation lectures, nutritional advice, and strong after-care support systems for recovery. Abstinence should not be a deprivation but rather a positive rewarding experience of life without alcohol.

We at the Schick Shadel Hospitals have often been asked about the history of our conditioned reflex aversion treatment of alcoholism. We have treated over 30,000 patients since 1935 by this method with a success rate of from 60 to 75%. Although I have not kept exact records of our experience with treating alcoholics by this method, I will try to recreate the events as I can remember them.

Most people at some time or another have become nauseated and sick after eating or drinking something that did not agree with them. Such an experience may leave a temporary to lasting revulsion for the offending food or drink. Attempts to purposely induce such an aversion to alcoholic beverages have probably been utilized from time immemorial. The Romans, for example, have been purported to have put snakes in wine to encourage abstinence.

In more recent times, there have been sporadic and not very scientific or controlled attempts to establish a distaste for alcoholic drinks by various noxious aversive stimuli. For example, Kantorovich (Russia, 1930) utilized a painful electric shock as

the unconditioned stimulus together with the actual exhibition of liquor as the conditioned stimulus to produce an aversion to alcoholic beverages, as per Pavlov (Russia, 1927). Apomorphine then became the noxious agent of choice for producing aversion to liquor. Sluchevsky & Friken (Russia, 1933), Markovnikov (Russia, 1934), Galant (Russia, 1934), Dent (England, 1934) and Ko (Belgium, 1936) all attempted conditioned reflex therapy with apomorphine.

In 1935, Charles Shadel and Walter Voegtlin, M.D. established a sanitarium in Seattle for the exclusive treatment of chronic alcoholism by means of Pavlovian conditioned reflex aversion. Dr Voegtlin had had training in Pavlovian techniques under the world famous professor of physiology and a Nobel prize winner, Professor Ivy, at the University of Chicago. Dr Voegtlin, a gastroenterologist practicing in Seattle, had not had experience treating alcoholics. However, after an extensive review of the literature, he decided to attempt to create a true conditioned reflex aversion to the sight, taste, smell, and thought of alcoholic beverages. He first

tried apomorphine but found that its short duration and sedative effect hindered proper conditioning. He then tried emetine and found it to be a more effective aversive stimulus. He also found that strict and meticulous adherence to Pavlovian principles was essential if this type of therapy was to be successful. The inconclusive results attained by others with this method he attributed not to any inadequacy of the principle involved but to incomplete, unscientific, and improper application of the fundamental requirements necessary for successful conditioning. It took Voegtlin 5 years, from 1935 to 1940, before he felt he had perfected the technically difficult but essential procedures for creating a true conditioned reflex. He found the secret of success to be proper timing. The onset of nausea from the emetine must occur exactly at the same time that the alcoholic drinks are exhibited, i.e. drunk and then vomited. This is vitally important for if alcohol is drunk too soon its intoxicating effect nullifies the establishment of conditioning. If the alcohol is drunk and exhibited too late, the association of nausea and imbibing is not properly correlated in the patient's mind. Exact timing is therefore essential for true Pavlovian conditioning. The inconclusive and not too scientific or satisfactory experiments of others were flawed by imperfect techniques.

Voegtlin's first published results was in 1940. He had attained a confirmed total abstinence rate of 4 years or longer of 64.3% in 538 patients treated by him with aversion conditioning.

I started my psychiatric practice in Seattle in 1937 and was very dissatisfied with the results of psychotherapy in alcoholism. Several of my patients had gone to the Shadel Sanitarium with good results after I had failed to help them. Having had a background in neurophysiology with Sir Adrian at the Cavendish Laboratory in Cambridge, England, in 1935, I was oriented to Voegtlin's new approach to the treatment of alcoholism. I therefore, joined his staff as a consulting psychiatrist and have been there since. It has been a rewarding experience and chance to try innovative therapies to augment the conditioned reflex aversion. As a consequence, we have been using pentothal interviews since 1937 to supplement the emetine aversion. Pentothal has

been employed as a narcoanalysis and narcosynthesis agent as well as a means of implanting subconscious suggestions for psychological as well as physical aversion. We were not aware during these years of the concepts of behavior modification which I believe developed independently and later.

For several years we have successfully substituted electric shock to the forearm as an aversive stimulus when the patient was not physically able to undergo the more strenuous emetine aversion. We have called this 'Faradic' treatment to avoid the unhappy connotation of electro-convulsive or electric shock treatment used for psychiatric cases.

Several attempts to replicate our results have been undertaken but without proper controls or techniques and therefore with inconclusive results. Lincoln Williams, however, came over from England in the 1960's, trained, and went back and practiced aversion therapy with good results. Representatives from the Washingtonian Hospital for Alcoholism in Boston also came for training and utilized this type of treatment in the 1950's and 1960's with good results.

Other noxious aversive stimuli such as spinning patients in a chair until nausea sets in, anectine apnea with fear, and disulfiram/alcohol reactions have been tried without success. Emetine seems to produce the most natural and logical unconditioned stimulus (nausea) for an effective conditioned reflex aversion.

It has always been obvious to us that conditioning alone was not complete therapy by itself. We, at the Schick Shadel Hospitals, therefore have an extensive comprehensive program with adjunctive individual and family counseling, informational orientation lectures, nutritional advice, and a strong after-care support system for the patient's recovery. The most important aspect of therapy is to establish a positive attitude toward abstinence. If patients feel that abstinence is a deprivation or have to 'white knuckle' their sobriety, they may feel that the struggle to maintain sobriety is not worth it. On the other hand, if patients can come out of treatment feeling positive and happy about abstinence, they will be able to enjoy a rewarding life free of alcohol.