

The Psychotherapeutic Potential of EDTA Chelation

Edward W. McDonagh, D.O.¹, Charles J. Rudolph, Ph. D., D.O.¹, and Emanuel Cheraskin, M.D., D.M.D.¹

Abstract

As far as we can establish, this is the first attempt to measure the "emotional state" of the chelation-treated patient within the limits of a time-tested and respected measuring instrument for feelings and moods, the M-R section of the Cornell Medical Index Health Questionnaire. It can be safely concluded that the average patient demonstrates significant emotional illness and that, after approximately 26 EDTA infusions extending over about 60 days of therapy, the overall clinical (emotional) symptomatology is reduced about 30 percent. The specific reflections of feelings and mood show an improvement from a low of 23 percent, in the case of anxiety, to a high of 50 percent for tension. It is hoped that these observations will catalyze interest by others in pursuing the psychopharmacologic potential of EDTA chelation therapy.

Introduction

In an earlier report¹, the point was made that, notwithstanding the burgeoning interest in measuring the biochemical and physiologic effects of EDTA chelation therapy, no one has published a quantitative clinical appraisal. Accordingly, that particular report¹ dealt with the effect of EDTA chelation therapy

upon the "physical" problems as measured by the Cornell Medical Index Health Questionnaire. The purpose of this report is to examine the "emotional" state in the very same group utilizing the same measuring instrument.

Review of the Literature

The strengths and weaknesses of the Cornell Medical Index Health Questionnaire (the M-R section) as a measure of emotional state have been outlined by the inventors (2-5) and by others (6-11). Suffice it to say that, while it is obviously not perfect, it can provide an estimate of feelings and moods. What is particularly noteworthy is that the M-R section of the CMI has never been examined before and after chelation therapy.

Method of Investigation

By utilizing the questionnaire according to the instructions set forth by the inventors², it is possible to derive two major groups of emotions and moods information. First, the entire M-R section may be totalled.

¹ McDonagh Medical Center, Inc. Kansas City, Missouri 64119

Parenthetical mention should be made that a significant emotional problem should be suspected when more than three or four questions are answered in the affirmative. The importance of this particular market will become apparent later in this report.

An examination of the feelings and mood section (M-R) of the Cornell Medical Index Health Questionnaire discloses that it contains 51 questions including six questions relating to sensitivity, nine questions to anxiety, 12 to inadequacy and nine each to anger and tension.

One hundred and thirty-nine routine private practice patients (aged 63.0 ± 10.3 years) including 83 males and 56 females participated in this study (Table 1). At the initial visit, all patients completed the Cornell Medical Index Health Questionnaire (CMI). After a series of EDTA chelation (each 3 g) infusions (mean 26.2) plus supportive multivitamin/trace mineral supplementation over an average of 61.4 days, all participants once again completed the questionnaire.

Results

Table 1 is an overall summary of the affirmative responses for the M-R section of the CMI. Three points warrant special consideration. First, the average patient reported 5.73 "emotional complaints". Mention was made earlier that three or four suggests "significant" disease. Hence, on a mean basis, this group must be viewed as being in very poor emotional "health". Secondly, following the EDTA and vitamin/mineral regimen, the mean number of findings dropped to 4.17. Hence, under these conditions, there was a statistically significant improvement in feelings and mood of an order of 27 percent. Thirdly, actually, 105 of the 139 reported positive findings. Hence, a recalculation of the symptomatic group (Table 1) showed higher values before and after therapy and a significant 30 percent improvement.

It was previously mentioned that the MR section of the questionnaire is so designed as to allow analysis of data subsets (Table 2) as shown by a study of tension, depression, anger, inadequacy, sensitivity and anxiety. On a mean percentage basis, all emotional parameters improved ranging from a low of 17 percent (line 6) for anxiety to a high (line 1) of 36 percent in the case of tension. However,

secondly, it should be added that four of the six proved to be statistically significant. Phrased another way, in the case of depression (line 2) and sensitivity (line 5), the mean percentage improvements of 33 and 19 percent were not significant at the 5 percent confidence level. The fact of the matter is that in these two categories, there are the greatest number of asymptomatic subjects. This is borne out in Table 3 where we learn that, of the total sample of 139 patients, only 25 reported depression findings. Hence, the data were recalculated for the symptomatic group (Table 3) of the total sample (Table 2). We now note several interesting points. First, in all instances, the mean percentage improvement is higher, now ranging from a high of 50 percent (line 1) in tension to a low of 23 percent in anxiety. It is also noteworthy, secondly, to report that the rank order in terms of mean percentage reduction is the same for the total group (Table 2) versus the symptomatic group (Table 3). Finally, it is especially important to underline the fact that, now in the symptomatic group, all categories are statistically significant.

Discussion

The information derived from this study and reported here is clearly new. As far as we can ascertain, there is not one published report on the effects of EDTA therapy upon emotional state as judged by any of the many available psychometric techniques. It is also exciting to note that the emotional improvement summarized in this report is higher than the physical improvement mentioned in the previous report in this series.¹

The M-R section of the CMI assigns different numbers of questions to different aspects of feelings and mood (Table 4). Thus, for example, inadequacy (line 3) is relegated twice the number of questions as sensitivity (line 1), depression (line 4). Hence, while the absolute results are interesting (Tables 2 and 3), they do not address one remaining question, namely, the relative frequency of emotional problems at the start of the experiment. Table 4 looks into this question by weighting the questions. Thus, for example, by such factoring, sensitivity, with the fewest number of questions, seems to be of prime importance.

Summary

It is fascinating to realize the overall salutary/emotional effect of EDTA chelation therapy with multivitamin/trace mineral support. This becomes even more significant when one combines these emotional benefits with those on the physical side previously

reported in an earlier publication¹. While these two reports do not address the question as to the common denominator, speculation suggests that an overall enhancement in circulation and its attendant improvement in cellular nutrition may well be the central or at least an important variable.

Table 1

Changes in total psychologic scores with EDTA chelation therapy in the entire sample of 139 subjects and the 105 symptomatic subjects

sample size	139	
total age	63.0 ± 10.3 years	
age (male group)	62.5 ± 10.6 years	
age (female group)	63.6 ± 9.7 years	
number of infusions	26.2	
number of treatment days	61.4	
initial M-R (psychologic) score	5.73 ± 6.69	
final M-R (psychologic) score	4.17 ± 5.54	t=3.0398 P<0.001*
percentage change	-27	
sample size	105	
initial M-R (psychologic) score	7.59 ± 6.72	
final M-R (psychologic) score	5.32 ± 5.85	t=4.4010 P<0.001*
percentage change	-30	

•statistically significant difference of the means

Table 2

Effect of EDTA chelation therapy upon psychologic parameters in the entire sample

psychologic line	sample parameter	initial size	initial	final psychologic scores	mean percentage reduction	significance of the difference of the means
1	tension	139	0.74+1.29	0.47±0.99	36	t=2.7857 P<0.010*
2	depression	139	0.28±0.70	0.19±0.69	33	t=1.5080 P>0.100
3	anger	139	0.94±1.53	0.64±1.16	32	t=2.4776 P<0.025*
4	inadequacy	139	1.60+2.30	1.08±1.85	32	t=3.5229 P<0.001*
5	sensitivity	139	0.90±1.47	0.73+1.17	19	t=1.7447 P>0.050
6	anxiety	139	1.28+1.78	1.06+1.71	17	t=2.1622 P<0.050*

•statistically significant difference of the means

Table 3

Effect of EDTA chelation therapy upon psychologic parameters in the symptomatic group

psychologic line	parameter	sample size	initial	final	mean	significance of
			psychologic	psychologic	percentage	the difference
			scores	scores	reduction	of the means
1	tension	51	2.01±1.39	1.01+1.32	50	t=4.8591 P<0.001*
2	depression	25	1.56±0.87	0.80±1.29	49	t=2.7282 P<0.025*
3	anger	56	2.34+1.60	1.27+1.45	46	t=4.2504 P<0.001*
4	inadequacy	69	3.22+2.34	1.90+2.22	41	t=5.3701 P<0.001*
5	sensitivity	50	2.50+1.40	1.58+1.42	37	t=4.3482 P<0.001*
6	anxiety	67	2.66+1.71	2.06+1.99	23	t=2.9915 P<0.005* *

statistically significant difference of the means

Table 4
Distribution of questions

Line	Parameter	number	Initial
weighted		of	Score
		questions	
1	sensitivity	6	0.41
2	anxiety	9	0.30
3	inadequacy	12	0.26
4	depression	6	0.26
5	anger	9	0.26
6	tension	9	0.22

References

- McDONAGH, E.W., RUDOLPH, C.J. and CHERASKIN, E.: The "clinical change" in patients treated with EDTA chelation plus multivitamin/trace mineral supplementation. *J. Orthomol. Psychiat.* 14, 1, 1985.
- BRODMAN, K., ERDMANN, A.J. and WOLFF, H.G.: The Cornell Medical Index Health Questionnaire Manual. 1949. Ithaca, Cornell University Medical College.
- BRODMAN, K., ERDMANN, A.J., LORGE, I. and WOLFF, H.G.: The Cornell Medical Index: An

adjunct to medical interview. *J.A.M.A.* 140,6,530-534, June, 1949.

- BRODMAN, K., ERDMANN, A.J., LORGE, I., GERHENSON, C.P. and WOLFF, H.G.: The Cornell Medical Index Health Questionnaire, III. Evaluation of emotional disturbance. *J. Clin. Psychol.* 8, 2, 119-124, April, 1952.
- BRODMAN, K., ERDMANN, A.J., JR., LORGE, I., DEUTSCHBERGER, J. and WOLFF, H.G.: The Cornell Medical Index Health Questionnaire. VII. The prediction of psychosomatic and psychiatric disabilities in Army training. *Am. J. Psychiat.* 111, 1, 37-40, July, 1954.
- KNOX, S.J.: An evaluation of CMI responses in the identification of psychiatric illness associated with mitral surgery. *J. Psychosom. Res.* 7, 1, 35-39, July, 1963.
- ARTHUR, R.J., GUNDERSON, E.K.E. and RICHARDSON, J.W.: The Cornell Medical Index as a mental health survey instrument in the naval population. *Military Med.* 131, 7, 605-610, July, 1966.
- GIBSON, H.B., HANSON, R. and WEST, D.T.: A questionnaire measure of neuroticism using a shortened scale derived from the Cornell Medical Index. *Br. J. Soc. Clin. Psychol.* 6, 2, 129-136, June, 1967.
- VERGHESE, A.: Relationships between the Eysenck Personality Inventory N score, the Cornell Medical Index M-R score, and the psychogalvanic response. *Br. J. Psychiat.* 116, 530, 27-32, January 1970.
- SEYMOUR, G.E.: The structure and predictive ability of the Cornell Medical Index for a normal sample. *J. Psychosom. Res.* 20, 5, 469-478, 1976.
- COSTA, P.T., JR. and McCRAE, R.R.: Psychiatric symptom dimensions in the Cornell Medical Index among normal adult males. *J. Clin. Psychol.* 33, 4, 941-946, October, 1977.