

Effects of Cyclotronic Ion Resonance on Human Metabolic Processes: A Clinical Trial and One Case Report

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We studied the effects of ion cyclotron resonance (Seqex) magnetic therapy on the blood of thirty two healthy volunteers. They received 15 treatments each 27 minutes in length, distributed over 5 weeks. The concentrations of two blood components, malondialdehyde (MDA) and cholesterol were measured in each subject, immediately before and immediately after the 15 treatments as well as one month after the final treatment. Highly significant reductions in MDA concentrations, averaging 53.8% were noted just after the 15 treatments, tending to return to the original concentrations one month later. The effect on HDL and LDL cholesterol levels were not significant. The implication of this work is that this type of therapy may be useful in dealing with oxidative stress.

Keywords ICR therapy; LDL/HDL blood levels; Malondialdehyde; Oxidative stress; Psoriasis; Seqex.

Introduction

Biological effect mechanisms of Electromagnetic Fields (EMF) at low and high frequencies are still widely misunderstood. Also there are questions about nonthermal electromagnetic effects (Bjordal et al., 2007; Lappin et al., 2003; Pieber et al., 2007).

In order that these questions be resolved it will probably require the traditional cause/effect relation and the inclusion of other factors as well, like the “electromagnetic history” of the subject and the environmental conditions.

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Methods and Materials

32 healthy volunteers were treated with cyclotron ionic resonance (ICR), by means of the "SEQEX®" medical apparatus (licence CE 355/MDD). Fifteen treatment sessions, 27 minutes each, were performed, three times a week. Oxidative stress was measured before (T1) and after (T2), and also after a month after completing the cycle (T3), quantifying the Malondialdehyde (MDA) concentration in the peripheral blood (Karatas et al., 2002). Blood totals, LDL, and HDL cholesterol values were registered at the same observation times (T1, T2, T3). Life style habits (diet, physical exercise, smoking, job, drug use, oral antioxidant use) were controlled and not changed in the study period.

Results

The therapy (T1–T2) resulted in a 53.81% decrease of the MDA mean value ($p = 0.0002$), with a decrease of sample variability, testified ($p < 0.0001$). In the subsequent period of the treatment (T2–T3), the medium MDA value increased ($p = 0.0104$), as well the variance ($p < 0.0001$). Figure 1 shows MDA values in the three measurements (T1, T2 and T3), for the 28 subjects.

With regard to cholesterol metabolism, only small differences were registered, considering all the parameters. If we consider only the 12 subjects having high (≥ 200 mg/dl) initial (T1) total cholesterol value, we noted that in 11 cases blood cholesterol was lowered after the treatment (T3) and in 4 cases normal values (< 200 mg/dl) were obtained. Focusing our attention on the sample variability, we can see (Fig. 2) that variability increased immediately after the treatment (T2), but it decreased after one more month (T3). Standard deviation varied from 34.1 to 36.9 in the treatment period (T1–T2), but it decreased to 30.2 in the following period (T2–T3).

Reported as follows are some interesting results, out of the 32 subject who participated in the clinical trial.

Table 1 shows subjects with very low MDA initial (T1) values (< 0.10 microM/l). In all the cases, MDA increased. These were athletes and it is likely that

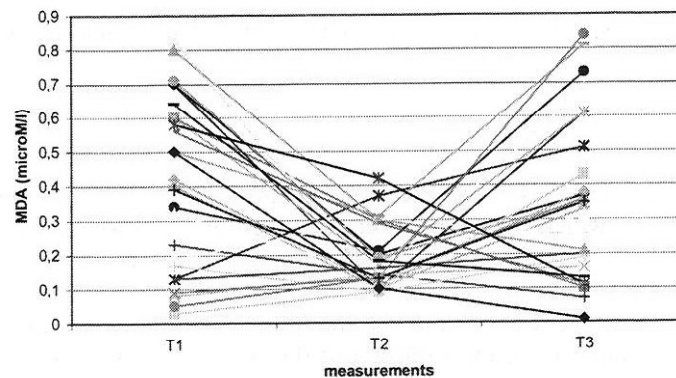


Figure 1. MDA blood concentration (microM/l) in the 3 observations (Only 28 subjects had all the 3 measures).

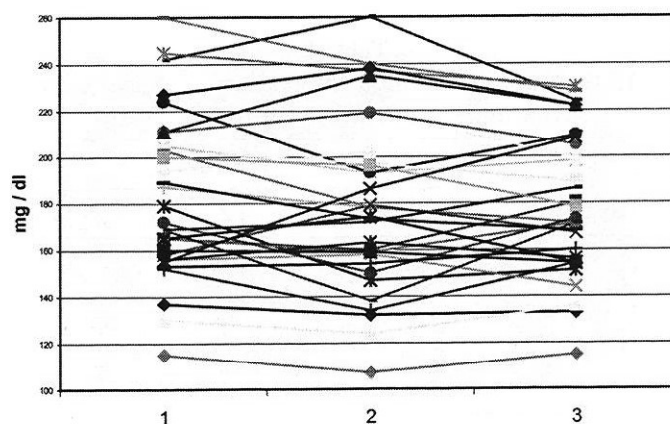


Figure 2. Blood total cholesterol concentration (mg/dl) in the 3 observations.

enzymatic free radical management processes are too active in these subjects (Metin et al., 2003; Urso and Clarkson, 2003).

Table 2 shows subjects with very high MDA values in T1 (≥ 0.80 microM/l). MDA highly decreased in all the 3 cases. These are sedentary subjects. One month after the end of the treatment (T3), MDA levels slightly increased, but did not reach initial values (T1); thus, the enzymatic free radical management processes seem to be restored in these subjects [8–11].

Table 3 shows 2 of the 12 cases with high total blood cholesterol levels at the beginning (T1): final values (T3) were better and also LDL cholesterol (Table 4) was lowered.

A Clinical Case

A case of psoriasis, a disease that is considered oxidative stress related (Okayama, 2005) is reported.

The patient was 39 years old, a bricklayer, and a current smoker. He first visited in November 2005. He was not taking drugs and not undergoing any kind of treatment.

Disease had begun in 2000 and was localized in elbows, head, and legs. The situation in 2005 is shown in Fig. 3.

Cyclotronic Ion Resonance (ICR) treatment was started in November 2005, performing 2 sessions per week, 27 minutes each. Multivitamin integration therapy and omotoxicologic drugs were also administered.

Improvement started after about 30 days of treatment, lasting up to the third month. Treatment was continued for the following 2 months, but no additional improvement was seen in this period. In the sixth month of treatment, skin lesions disappeared almost completely and the patient's situation is shown in Figs. 4 and 5.

Treatment was interrupted and the patient is controlled every month. Now, 12 months following the end of treatment, skin lesions have not reappeared.

Table 1
MDA values in the three observations (subjects with
MDA initial value – T1 \leq 0.10 microM/l)

Subject	MDA		
	T1	T2	T3
1	0.09	np	0.34
2	0.05	0.13	0.84
3	0.09	0.13	0.36
4	0.03	0.09	0.43
5	0.08	0.14	0.16

Table 2
MDA values in the three observations (subjects with
MDA initial value – T1 \geq 0.80 microM/l)

Subject	MDA		
	T1	T2	T3
6	0.83	0.10	0.43
7	0.84	0.12	0.16
8	0.80	0.30	0.21

Table 3
Total blood cholesterol values in 2 subjects with high
(\geq 200 mg/dl) initial (T1) value

Subject	Total cholesterol		
	T1	T2	T3
1	242	260	224
2	260	240	228

Table 4
Blood LDL cholesterol values in 2 subjects with high
(\geq 200 mg/dl) initial (T1) total cholesterol value

Subject	Total cholesterol		
	T1	T2	T3
1	158.6	179	148
2	181.8	157	150.6



Figure 3. Psoriasis lesions prior to Ion Resonance Therapy.

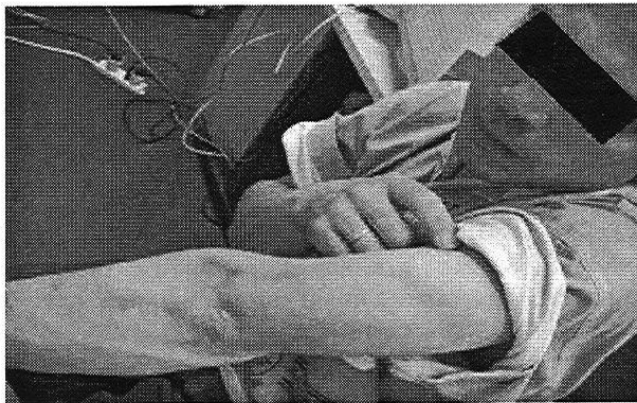


Figure 4. Left arm following therapy after 6 months.

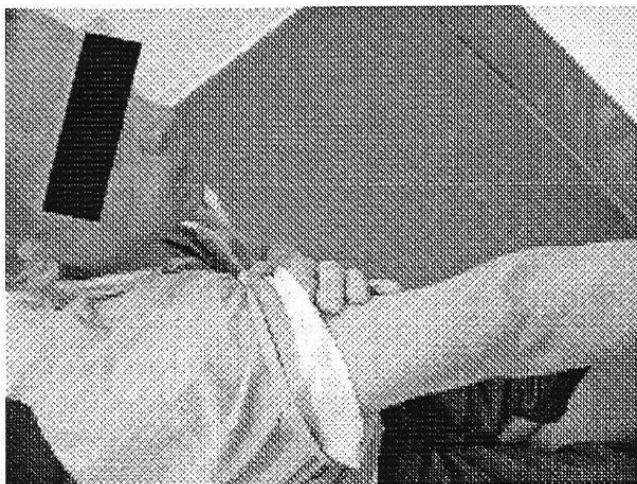


Figure 5. Right arm following therapy after 6 months.

Discussion

Our analysis showed a balancing effect on oxidation, resulting from a cycle of treatment with extremely low frequency electromagnetic waves, using the “SEQEX®” medical apparatus.

With regard to cholesterol metabolism, only small differences were registered, considering all the parameters. Considering that only 12 (out of 32) patients had high (≥ 200 mg/dl) initial (T1) total cholesterol value and also considering that the treatment period was very short, we can highlight a slight but interesting cholesterol lowering capacity shown by extremely low frequency electromagnetic waves treatment, even though further data are needed (Deng et al., 2004; Islamov et al., 2004).

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