Beneficial Effects & Side Effects of DHEA: True Anti-Aging & Age-Promoting Effects, as well as Anti-Cancer & Cancer-Promoting Effects of DHEA Evaluated From the Effects on the Normal & Cancer Cell Telomeres & Other Parameters

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(Received October 31, 2005; Accepted with Revisions December 24, 2005)

ABSTRACT:
The author evaluated the effects of DHEA (Dehydroepiandrosterone) on the amount of telomeres of normal cells & cancer cells and found the following: Contrary to the literature, which often recommended 25-50 mg of DHEA daily for the average adult human being, the author found that, depending on the individual, the maximum increase of normal cell telomere was obtained by a single optimal dose of 1.25-12.5 mg. This was examined in 50 people, both males and females, between the ages of 20-80 years old. When one optimal dose was given to each individual, the average telomere amount in normal tissues, measured in Bi-Digital O-Ring Test units, often increased from anywhere between 25-300 ng to between 500-530 ng. Cancer cell telomere reduced from higher than 1100 ng to less than 1 yg (=10^-9 g) with equally significant normalization of abnormal cancer parameters (such as Integrin αβ, Oncogen C-fosAb2, Acetylcholine, etc.). Circulatory improvement and an increase in grasping force of up to 25% were also detected, along with the changing of a few white hairs to black hairs. The beneficial effects of one optimal dose of DHEA generally lasted between 1 to 4 months, though in some individuals it lasted for a much shorter period of time due to a number of negative factors such as excessive stress/work, excessive exposure to low temperatures and toxic substances, or use of common pain medicines. On the other hand, if a patient took an excessive dose of DHEA, the amount of normal cell telomere decreased, while there was an increase in cancer
cell telomere. It was found that those who took an overdose of 25-50 mg daily for more than 3 months had a high incidence of cancer of the prostate gland, breast, colon, lung, and stomach. Also, when the average normal cell telomere levels were less than 110 ng, compared with a normal value of 120-130 ng, and when DHEA in different parts of the body was also extremely low (less than 1-2 ng), one could suspect the possible presence of a malignant tumor somewhere in the body. When normal cell telomere was less than 110 ng, most individuals felt very weak with marked tiredness in the eyes, and grasping force was often reduced.

KEYWORDS: DHEA; Anti-aging effect of DHEA; Age-promoting effect of DHEA; Anti-cancer effect of DHEA; Cancer-promoting effect of DHEA; Bi-Digital O-Ring Test; Pain; Circulatory disturbance; White & black hairs; Prostate cancer; Astrocytoma; Non-steroidal Anti-inflammatory drugs (NSAIDs); Hand writings

INTRODUCTION:

When the author looked into the early literature on Dehydroepiandrosterone (DHEA), the oldest related literature quoted was a German article from 1934 on steroid derivatives in human urine, with special emphasis on Dehydro-androsterone and Androsterone, by Adolf Butenandt and Hans Dannenbaum (1). The 2 next oldest articles quoted in the literature, published between 1943 and 1954, did not use the currently used chemical name Dehydroepiandrosterone. Rather, they used the different word “Dehydroisoandrosterone” (DHIA) or its sulfate ester “Dehydroisoandrosterone Sulfate” (DHIA-S) (2, 3). This chemical was first detected from human urine in 1934 and then in 1943 (1, 2) and human peripheral plasma in 1954 (3, 4). In 1961, Roberts, KD et al. of Columbia University further studied the mechanism of conversion of Dehydroisoandrosterone sulfate to Androsterone and Etiocholanolone Glucuronidates (5). In 1961, Roberts was still using the term “Dehydroisoandrosterone.” This same terminology was used by other scientists in the 1960s. The study by Roberts, KD et al. demonstrated that by injecting a normal subject with radioisotope tritium-labeled potassium Dehydroisoandrosterone sulfate, labeled Androsterone and Etiocholanolone could be isolated from Glucuronidase-hydrolyzed urine. This isolation established an equilibrium between Dehydroisoandrosterone sulfate and Dehydroisoandrosterone in the human body. Instead of “Dehydroisoandrosterone,” the chemical term “Dehydroepiandrosterone” appeared to be first used by Etienne-Emile Baulieu, MD, of Laboratoire d’Endocrinologie-Chimie Medicale, Faculty of Medicine, University of Paris. This was in his 5-page article of November 27, 1959, as part of the “Letters to the Editor” section of the Journal of Clinical Endocrinological Metabolism (4). In this article, the author Baulieu reported that after administration of ACTH, plasma Dehydroepiandrosterone sulfate increased relatively more than 2 other steroids (Androsterone sulfate and Etiocholanolone sulfate). DHEA is also known as Prasterone, Hydroxyandrostenone, or 3β-Hydroxy-5-androsten-17-one. DHEA has a molecular formula of C_{19}H_{28}O_2, with a molecular weight of 288.43. Recent reports on the effects of DHEA (dehydroepiandrosterone) have described
Cholesterol $\xrightarrow{\text{DHEA}}$ (Dehydro-epiandrosterone)

Pregnenolone $\xrightarrow{17$\text{-}$\text{hydroxy pregnenolone}}$

Progesterone $\xrightarrow{17$\text{-}$\text{hydroxy progesterone}}$

Deoxycorticosterone $\xrightarrow{11$\text{-}$\text{deoxycortisol}}$

Corticosterone $\xrightarrow{\text{Cortisol}}$

Aldosterone $\xrightarrow{\text{Estradiol}}$

Aldosterone (3βD)

Cholesterol $\xrightarrow{\text{DHEA}}$ (Dehydro-epiandrosterone)

Pregnenolone $\xrightarrow{17$\text{-}$\text{hydroxy pregnenolone}}$

Progesterone $\xrightarrow{17$\text{-}$\text{hydroxy progesterone}}$

Deoxycorticosterone $\xrightarrow{11$\text{-}$\text{deoxycortisol}}$

Corticosterone $\xrightarrow{\text{Cortisol}}$

Aldosterone $\xrightarrow{\text{Estradiol}}$

Aldosterone (3βD)

Fig. 0: Metabolic Pathways Among Cholesterol, DHEA, Various Steroid Hormones & Sex Hormones (by Omura, Y. 2005)
beneficial effects (6-10, 12-15, 17-35, 37-44) ranging from those characterized by anti-
aging, anti-osteoporosis, anti-obesity (anti-fat), anti-viral, anti-bacterial, anti-stress, anti-
memory deficiency, anti-cardiovascular disease, anti-diabetic, anti-cancer, and immune-
enhancing properties, as well as the extremes of prostate and breast cancer-promoting
effects (11, 16, 36, 45-52). The molecular structure of DHEA and metabolic pathways
among cholesterol, DHEA, various steroid hormones, and sex hormones are illustrated in
Figure 0. These completely contradictory reports are very confusing and disturbing for
not only patients and medical professionals but also average individuals interested in
health. In order to find out the truth, the author began to study the effects of DHEA.
First, the author noticed that most of the amounts of DHEA recommended for the
average adult in popular books ranged anywhere from 25-50 mg daily to 50-100 mg
daily, although they suggested a lesser amount for women (6, 8). Using the Bi-Digital O-
Ring Test, the optimal dose for each patient or volunteer was examined and found in
most of the subjects to be anywhere between 1.25-12.5 mg for 50 males and females
ranging from 20-80 years old. This was contrary to the widely used 25-50 mg daily dose.
Initially, when the author started using the optimal dose 2-3 times daily, the total amount
was still close to or less than the recommended daily dose. When the author examined
the effects of DHEA on normal cell telomere when one optimal dose a day was given, it
was found that in most of the individuals with reduced normal cell telomere, normal cell
telomere usually increased significantly. However, when the author gave on the same
day a 2nd dose of the same originally determined optimal dose, the normal cell telomere
significantly decreased; the telomere further decreased when an optimal dose was given a
3rd time on the same day. Because of this, the author decided to study how long the
effects of one optimal dose of DHEA on the normal cell telomere would last. As a
consequence, the author found that in the majority of average adults, one dose of the
optimal amount of DHEA lasted anywhere between 1-4 months. Not only that, but when
one optimal dose was given, cancer cell telomere and other abnormally increased cancer
parameters became close to zero.

On the other hand, when 25 mg of DHEA was given, normal cell telomere never
increased but instead decreased in every subject, although transitionally most people felt
their general condition to be improved. When one optimal dose of DHEA was given to
an individual, average normal cell telomere increased to a minimum of 500 ng and a
maximum of 530 ng in Bi-Digital O-Ring Test units, and the abnormally increased (of
more than 1100 ng) cancer cell telomere became practically zero (1 yg=10^-24 g, or less). When 25 mg, which is an overdose for almost every individual (except for excessively
overweight people), was given every day, not only did the amount of normal cell
telomere not increase, but it actually went down below the original amount. Cancer cell
telomere and other abnormally increased cancer parameters also increased by giving an
overdose of DHEA, such as 25 or 50 mg. In this article, the author describes these
important relationships that can clarify previously published completely contradictory
claims of the beneficial and adverse effects of DHEA.
**MATERIALS AND METHODS:**

In order to measure telomere in Bi-Digital O-Ring Test units the author used known amounts of synthesized pure telomere (TTAGGG) embedded between 2 thin sheets of chemically-inactive transparent plastic sheets that were shaped like microscope slides. A known amount of pure telomere sample was in the white, round-shaped filter papers that had diameters of about 5 mm. This sample was sandwiched between two identically thin, inactive, and transparent plastic sheets and sealed without using any chemical or adhesive substance, and without applying any heat on the sample. Known amounts of pure reference control substances including DHEA, Thromboxine B₂ (TXB₂), cortisol, Substance P, Bradykinine, Integrin α₅β₁, Oncogen C-fosAb₂, monoclonal bacteria and viral slides were prepared in a similar manner. The slides with known amounts of different reference control substances were obtained from ORT Life Science Research Institute, Kurume City, Japan. Average normal cell telomere was measured non-invasively by detecting strong electromagnetic resonance between the known amounts of telomere used as a reference-controlled substance and the identical substance in the body tissue. This was done using the Bi-Digital O-Ring Test Resonance Phenomena between two identical molecules (45-63). This resonance became maximized when both identical molecules were present in identical amounts. The author commonly used the right upper arm, above the biceps muscle, to test the average amount of telomeres of normal cell in Bi-Digital O-Ring Test units.

![DHEA](image1)

**Figure 01**

![DHEA-S](image2)

**Figure 02**
DHEA is produced naturally as a Pre-Hormone by the adrenal cortex and is the most abundant steroid hormone. DHEA is also produced in the brain by neurons and astrocytes (10). The adrenal cortex consists of 3 zones layered under a surface capsule. The 1st layer is the Zona glomerulosa, which produces mineral corticoids. The 2nd and thickest layer is the Zona fasciculata. It is about 3-4 times thicker than the 1st layer and about 2 times thicker than the 3rd layer. The 3rd layer is the Zona reticularis. Below these 3 layers of the adrenal cortex is the medulla of the adrenal cortex, which secretes Epinephrine and Norepinephrine. The 2nd and 3rd layers are the primary sources of Glucocorticoids such as cortisol and a secondary source of androgens such as testosterone, Dehydrotestosterone (DHT), Androstenedione, and DHEA, as well as female sex hormones. The release of DHEA is stimulated by Adrenocorticotrophic hormone (ACTH), which is produced by the anterior pituitary gland. ACTH stimulates the conversion of Cholesterol to DHEA, which is released to the bloodstream mainly as DHEA Sulfate (DHEA-S). DHEA is also synthesized in the brain and skin. DHEA can be converted to Androstenedione, which can be converted to both Testosterone and Estrone, both of which can be converted to Estradiol. Testosterone can also be converted to Dehydrotestosterone (DHT). DHEA is also known as the “Anti-Aging Hormone” and its effects resemble the human Growth Hormone (hGH).

Unlike very expensive hGH, most of the commercially available DHEA comes in small bottles containing 10 or 25 mg of 60-100 tablets or capsules which are relatively inexpensive ($6-$15) in U.S. drug stores in 2005. DHEA is sold as a nutritional supplement without a prescription in the United States, but it is declared as an anabolic steroid in Canada. It is illegal to use or sell DHEA in Canada without a prescription (11).

In the USA, DHEA is commercially available by Country Life in Hauppauge, New York, in pharmaceutically pure form in capsules of 10 mg, although the capsule contains cellulose, gelatin, silica, and magnesium stearate. Another company that carries a pharmaceutically pure form of DHEA is Swanson Health Products in Fargo, North Dakota, USA. Their 25 mg capsules also contain rice flour and gelatin. Another commonly used DHEA is a white tablet made by Schiff which comes in a 25 mg dose but also contains 1 mg of trans-ferulic acid and 140 mg calcium carbonate. The reason 1 mg of trans-ferulic acid is included is because it is an important part of gamma oryzanol. Gamma oryzanol is a naturally occurring mixture of plant chemicals called sterols and ferulic acid esters. There is a possibility that gamma oryzanol increases testosterone levels, stimulates the release of endorphins, and promotes the growth of lean muscle tissue, but usually the commonly used amount of trans-ferulic acid is 500 mg. However, the daily requirement is not yet established.

One of the advantages of using the Bi-Digital O-Ring Test is not only that one can determine whether a certain substance is beneficial or harmful, but also that one can determine the optimal dose (if beneficial) before giving the actual substance to the patient. Therefore, the author called this method of testing specific drug effects without having the patient actually take the drug “Virtual Drug Testing” (See example of Testing in clinical case #2). The author tested all of these commercially available DHEA brands in approximately the same amounts. The results were more or less identical, in spite of some of them having small amounts of different impurity materials other than DHEA.
The author's previous 10 years of research on the right and left handwritings indicated that invisible, hidden medical information such as normal tissue cell average telomere, DHEA, Integrin α5β1, Oncogen C-fos Ab2, and other molecules can be estimated accurately using Bi-Digital O-Ring Test Resonance Phenomena between 2 identical substances. The result was almost identical to the values measured directly from the same person's hand and arm. Some of these studies have been reported and demonstrated during the Annual Scientific Meeting of the American College of Forensic Medicine & Forensic Examiners in 2004. Using this Bi-Digital O-Ring Test examination of the amount of telomere, DHEA, Integrin α5β1, and Oncogen C-fosAb2 etc. found in the right and left handwritings, it was often possible to detect malignancy with rather high accuracy. The author was able to suspect various cancers such as breast, lung, colon, ovary, and prostate gland cancer, usually by performing Bi-Digital O-Ring Test on handwriting and signatures found in the patients' letters. Typically, the abnormality showed up when it was in the same side of the body as the dominant (usually right) side of handwriting. Still, one cannot exclude the possibility of a malignant tumor in the other side of the body simply because the dominant-side handwriting is normal. For brain tumors, including very malignant brain tumors such as Astrocytoma, or Glioblastoma Multiforme, right mouth and left mouth writing can provide more reliable diagnostic information. Therefore, the author often used at least right and left handwriting for preliminary quick cancer screenings. However, ideally it was desirable to have right mouth writing and left mouth writing, right handwriting and left handwriting, and right foot writing and left foot writing. Right mouth writing is carried out by holding a ball point pen, which is sterilized with alcohol, in the right side of the mouth, and then writing the letter “R” (even just one short deformed line), no matter how illegible. Left mouth writing is carried out by putting a ball point pen in the left side of the mouth and then attempting to write anything, but usually the letter “L”. Usually, it is better to hold the pen with the upper and lower teeth of the same side. Right foot writing is usually done by holding a ballpoint pen between the right big toe and right second toe, and then making an effort to write the letter “R”. The left side is done in the same manner, only with the left big toe and left second toe and attempting to write an “L”. Any line drawn contains the hidden medical information, even when it is illegible. The author compared the original mouth, foot, and handwritings and the ones sent by fax. The information was almost identical. Therefore, when the author received any handwriting or a signature, he often examined it to see if the Bi-Digital O-Ring test was abnormal or normal. If it is found to be very abnormal, the author measured the amount of telomere and DHEA, and if these values were also very low, then there was a high probability of the presence of a malignant tumor. To exclude the possibility of a malignant tumor, additional Integrin α5β1 and Oncogen C-FosAb2 would be examined. If any one of them were over 200 ng, a malignant tumor would be immediately suspected. Then, the next step was to find out which malignant tumor microscope slide would produce very strong resonance and thus identify which organ had a potential malignancy. Once this was found, it was suggested that the patient see a physician or oncologist to exclude the possibility of malignancy by standard laboratory test. With this method, within the past 4 months, the author found about 10 cases of potential malignancy. Three were confirmed by standard laboratory tests, while others could not be confirmed, mostly because they were at very early stages and not big enough to be detected by a standard laboratory test.
After initially giving one optimal dose of DHEA, in order to follow up on people who lived far away, the author had the people send at least right handwriting and left handwriting of their name, age, date, time and telephone number via mail or fax. This was done every 3 to 7 days, and the handwriting was evaluated. The author’s previous studies indicated that when invisible hidden medical information in the original handwriting and the photographed handwriting (taken through an optical or digital camera or through fax) was compared, the results were almost identical.

RESULTS

Some of the typical examples of the effects of one optimal dose of DHEA on average telomere and DHEA of normal cells, measured in Bi-Digital O-Ring Test units, and on the treatment of pain, circulatory disturbances, prostate cancer, breast cancer, and Astrocytoma of the brain, as well as clinical cases of the result of the daily intake of an overdose of DHEA promoting prostate cancer and lung cancer, will be described in the following series of clinical cases:

Clinical Case #1:
Beneficial Effects of One Optimal Dose of DHEA (6 mg) on Chronic Intractable Pain in the Sole of the Left Foot

A 58 year-old Caucasian female physician with a body weight of 77 kg had intractable pain in the upper third part of the sole of her left foot, (near the base of the toes) and complained of persistent pain when she walked. The pain started more than a year ago. In the past, she explained that acupuncture only gave temporary relief that did not last for more than a few days. Since she was complaining of pain, the author examined Substance P, which was increased in the presence of pain, and Thromboxane B2, which was increased in the presence of pain or circulatory disturbance. Although she claimed to have a maximum pain of +4 to +6 on 0-10 pain scale, when Substance P was measured, it was 240 ng which was too low to have +5 or +6 grading of pain; it usually corresponded to about +4 on a grading scale for pain. Her optimal dose of DHEA was

<table>
<thead>
<tr>
<th>Effects of Optimal Dose of DHEA (6 mg) on the Telomere, Substance P, and TXB2 for Painful Sole of Left Foot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average normal cell Telomere levels in R-arm in BDORT units</td>
</tr>
<tr>
<td>-------------------------------------------------------------</td>
</tr>
<tr>
<td>Before taking optimal dose of DHEA 6 mg</td>
</tr>
<tr>
<td>10 Min. after taking optimal dose of DHEA 6 mg</td>
</tr>
</tbody>
</table>
6 mg. More than 5 minutes after taking her optimal dose of DHEA of 6 mg, substance P and Thromboxane B₂ were measured in the painful area and telomere was measured in the right upper arm.

Within 5 minutes after taking one optimal dose of DHEA, the pain completely disappeared, even after test walking for several minutes, and pain did not come back. The effect lasted at least one week. When the beneficial effects of one optimal dose of DHEA does not last even one month, usually there is some contributing factor or factors that will be discussed in the latter parts of this article.

Clinical Case #2: Beneficial Effects of One Optimal Dose of DHEA (6.25 mg) on Severe R-Knee Joint Pain After Sport Trauma

A 30-year-old, 59 kg Oriental male graduate student in one of the universities in New York has actively participated in soccer for the past few years. In the summer of 2005, during a soccer match, he twisted his knee and developed severe pain afterward. Originally, the pain was only severe after sudden movement and walking; after about 4 months, the pain became so severe that even without movement or mechanical load, he would start to suffer pain that was rated as +5 on a 0-10 grading scale. The pain was
limited only to the medial side and back of the right knee joint. His knee was examined by X-ray, and an impression of "unremarkable right knee" was reported approximately 2 months after the injury and the radiologist ordered an MRI of the injured knee. The MRI report stated "Impression: Non-acute mid substance tear of the anterior cruciate ligament, horizontal tear in the posterior horn of the medial meniscus and grade I sprain in the medial collateral ligament." The orthopedic surgeon at the university hospital informed the patient that he should have surgery to improve the condition. However, at the suggestion of the patient's relative who was familiar with the author's work, the student decided to temporarily postpone the surgery until he got the author's evaluation.

As can be seen in Figure 2A, there were two locations in the right knee and one more location behind the right knee that is not visible in this picture.
DHEA in the normal part of his right hand and right leg was 130 ng, which was completely normal, but in the painful area DHEA was 0.5 ng, TXB₂ was 300 ng, substance P was 350 ng, Bradykinin was 136 ng, and there was a bacterial/viral infection. Among these the strongest infection was Chlamydia Trachomatis, which was measured at about 800 ng. This finding clearly indicated that whatever problem existed, the knee had very poor circulation and there was very little chance of improvement. As a result, the author discussed a number of possible approaches. Among these options was the optimal dose of DHEA, which the student decided to try and see the response. Also, the author indicated that when there was infection and any surgery was performed, the infection could be further spread, possibly worse than before (unless the infection was eliminated prior to the operation). Therefore, in order to find out the optimal dose of DHEA in the patient, the author performed a Virtual Drug Test by asking the patient to hold different amounts of DHEA. Before the Virtual Drug Test was carried out, the patient indicated that his entire left side of the body felt very heavy, and when the author examined both the right and left sides, the following distinctive differences were found before optimal dose of DHEA (6.25 mg) was orally taken:

<table>
<thead>
<tr>
<th></th>
<th>Right Arm</th>
<th>Left Arm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before</td>
<td>After taking optimal dose of DHEA</td>
</tr>
<tr>
<td>Telomere</td>
<td>275 ng</td>
<td>510 ng</td>
</tr>
<tr>
<td>DHEA</td>
<td>130 ng</td>
<td>130 ng</td>
</tr>
<tr>
<td>TXB₂</td>
<td>1 ng</td>
<td>0.5 ng</td>
</tr>
</tbody>
</table>

As can be seen from the above table, the measurement of the telomere, DHEA and TXB₂ in the right and left sides were quite different, as opposed to the majority of patients in whom they are the same. The left side itself was very abnormal and the patient felt very heavy. In order to evaluate the optimal dose of DHEA, the Virtual Drug Test was performed. The result is shown in the following table, which shows the Virtual Drug Test of DHEA on the telomere:

**VIRTUAL DRUG TEST TO ESTIMATE THE OPTIMAL DOSE OF DHEA**

<table>
<thead>
<tr>
<th></th>
<th>Right Arm Telomere</th>
<th>Left Arm Telomere</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Before Holding DHEA</td>
<td>After Holding DHEA</td>
</tr>
<tr>
<td>+ 25 mg DHEA</td>
<td>275 ng</td>
<td>15 ng</td>
</tr>
<tr>
<td>+ 12.5 mg DHEA</td>
<td>275 ng</td>
<td>260 ng</td>
</tr>
<tr>
<td>+ 6.25 mg DHEA</td>
<td>275 ng</td>
<td>510 ng</td>
</tr>
<tr>
<td>+ 3.12 mg DHEA</td>
<td>275 ng</td>
<td>430 ng</td>
</tr>
</tbody>
</table>

Based on these findings, the author concluded that the optimal dose of DHEA was 6.25 mg. When 6.25 mg of DHEA was administered orally with a half cup of water, the
patient noticed that within 5 minutes, he no longer felt any pain. Not only that, by moving his right leg and changing the angle of the knee, no pain was felt. After oral intake of one optimal dose of DHEA (6.25 mg), abnormal circulation with increased TXB$_2$ of 300 ng became significantly reduced to 0.01 ng. This was completely normal; the normal range is less than 1 ng. Abnormally increased Substance P, which approximately corresponded to his pain level of +5, became reduced to 0.1 ng, which essentially indicated that there was no pain. When he changed the angle of the right leg, no pain was induced. He stood to walk, but no pain was felt.

<table>
<thead>
<tr>
<th>Painful areas of right-knee</th>
<th>Before taking DHEA</th>
<th>After taking optimal dose of DHEA 6.25 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>DHEA</td>
<td>0.5 ng</td>
<td>115 ng</td>
</tr>
<tr>
<td>TXB$_2$</td>
<td>300 ng</td>
<td>0.01 ng</td>
</tr>
<tr>
<td>Substance P</td>
<td>315 ng</td>
<td>0.1 ng</td>
</tr>
<tr>
<td>Bradykine</td>
<td>136 ng</td>
<td>0.1 ng</td>
</tr>
<tr>
<td>Chlamydia Trachomatis</td>
<td>800 ng</td>
<td>100 ng</td>
</tr>
<tr>
<td>Grading of Pain (0-10 scale)</td>
<td>+5</td>
<td>0</td>
</tr>
</tbody>
</table>

FIGURE 2B
The next day, he informed the author that no pain returned. At the time, he was leaving New York on vacation to Tokyo for a few weeks, and after that the author will be able to follow up with this patient.

The changes of the abnormal parameters before and after the optimal dose of DHEA administration are shown in the above table of the right knee only.

About 1 week after one optimal dose of DHEA (6.25 mg) was taken orally, he informed the author from Tokyo that even after long distance traveling, no pain returned, and his right and left hand writing sent by fax indicated that normal cell telomere of arms was 500 ng. Two weeks after the treatment, the beneficial effects still remained. Telomere also remained around 500 ng. DHEA of his arms was 80 ng. Although it was reduced, it was an acceptable low normal value.

Clinical Case #3: Beneficial Effects of One Optimal Dose of DHEA (6 mg) on Whiplash, Severe Dizziness, Difficulty in Memorizing, and Forgetfulness After Car Accident.

Patient is a 60 year-old, Oriental female artist with a body weight of 45 kg. She had a normal cell telomere level of about 70 ng with possible Adenocarcinoma of the colon. In the author’s previous study, when the normal cell telomere measured in the upper arm reduced to less than 110 ng, cancer often existed somewhere in the body. When the author examined the subject, there was an increased level of Integrin $\alpha_\beta_1$, which was located in the descending colon area, which had an abnormally high value of 350 ng. A microscope slide of the Adenocarcinoma of the colon produced strong resonance indicating possible Adenocarcinoma of the colon. This patient agreed to take an optimal dose of DHEA after informed consent form was signed, since the author’s previous study shows that one optimal dose of DHEA has significant anti-cancer effects. After 6 mg of optimal dose of DHEA was given, normal cell telomere levels went up from 70 ng to 510 ng and the cancer telomere of the descending colon went down from 1150 ng to less than 1 yg ($\text{yg} = 10^{-24} \text{g}$). DHEA at colon cancer positive area, as well as normal parts of the body, went up from 2 ng to 120 ng. The following day similar beneficial results were maintained from the previous day. However, that evening she was in her friend’s car and someone hit the car from behind, giving her whiplash and causing her to develop severe dizziness with some pain in the occipital area. When her normal tissue telomere was measured from her right upper arm, it was reduced to 45 ng at the base of the skull at the occipital area. The measured amount of Thromboxane B$_2$ was 525 ng, which indicated extremely strong circulatory disturbance in the occipital area at the base of the skull. Substance P in the same area was measured at 75 ng, which indicated the presence of mild pain. The author also decided to give another optimal dose of DHEA, which was 6 mg, since the effect of the 1$^{st}$ optimal dose of DHEA (6 mg) disappeared completely and became worse than her 1$^{st}$ visit. Immediately after the car accident she was examined and told there was no serious problem and an emergency room physician told her she did not require an MRI. Twenty-four hours after the accident, the author examined the subject and examined changes in Substance P, TXB$_2$, and normal cell telomere before and after oral intake of optimal dose of DHEA (6mg), as shown in the following Table:
Within a few minutes after oral intake of optimal dose of DHEA of 6 mg her severe dizziness, mild pain, and forgetfulness completely disappeared. In order to make sure there would be no possible damage to her brain, an MRI of the head and neck was performed. It was normal and the patient’s symptoms never came back, even after a few months passed. Telomere levels remained between 500-510 ng for more than 2 months after 2nd optimal dose of DHEA (6 mg) was taken.

In figure 3A, the patient’s main abnormal sensation was localized at the occipital area at the junction between the base of the skull and the cervical vertebrae, as shown by patient’s index finger. All of the measurements were done in this area. In figure 3B, the patient also indicated that there was abnormal sensation at the throat behind the chin, where similar abnormal measurements were detected.
Clinical Case #4:
Beneficial Effects of One Optimal Dose of DHEA on a Female Patient With Post-Menopausal Hot Flashes

This 58 year-old Oriental woman with body weight of about 45 kg was a former high school teacher and then went back to college. She had been suffering from post-menopausal hot flashes for about 15 years. For her hot flashes she had been given premarin daily. Recently, she was told by her obstetrician that continuous use of premarin had a potential risk of causing breast cancer and therefore, she came to see the author for treatment. She described her hot flashes as mainly appearing in the occipital area and space between both ears, as well as the neck. They came an average of 4-5 times daily. Each time lasted about 5-10 minutes. When they happened, the occipital area and back of the neck felt very hot and were hot to the touch. Also, with the hot flashes, she often noticed that sweat started coming out from her neck, face, and back. The author thought hot flashes were usually due to circulatory disturbance related to abnormal circulation and since the author’s study indicated abnormal circulation often improves significantly with one optimal dose of DHEA, the patient wanted to try an optimal dose of DHEA which was about 6 mg for her. Before she took DHEA, her normal cell telomere level was about 120 ng. As soon as she took one optimal dose of DHEA, telomere level went up to 500 ng and the next day she reported for the first time that she had about 90% disappearance of hot flashes. At the time this article was written she was already more than 2 months after taking one dose of DHEA and average normal cell telomere in both hands was still 500 ng, DHEA was 80 ng, and 80% of the hot flashes had disappeared, though the remaining 20% still remained. However, the number of the hot flashes slightly diminished. Time duration of each hot flash often did not last more than 1-2 minutes, and the intensity of the hot flashes was about 20% of the original pre-treatment level. On one occasion, the author tried to wait until her hot flashes appeared. After about 4 hours she indicated that she was starting to have a hot flash on both ears, but by the time the author tried to measure with non-contacting infrared skin thermometer, within 1 minute the symptoms had already disappeared. The author was never able to measure the increase in temperature in the short time when she felt hot.

Clinical Case #5:
Effects of One Optimal Dose of DHEA on Nosebleeding Induced By Electromagnetic Field Hypersensitivitv Due to More Than 1 Minute’s Use of Cellular Phone

A 50-year-old female of Chinese descent (with 2 daughters) had a chief complaint of nosebleeding that often occurred after using a cellular phone for more than 1 minute. Otherwise, she was a normal housewife without any other symptoms. Because of this, the author speculated that the electromagnetic field must induce a significant circulatory disturbance. According to the author’s previous study, those who have an electromagnetic field hypersensitivity had a very significant reduction in Acetylcholine and an increase in TXB2. The telomere of normal cell tissue was also markedly reduced. She stated that when she holds a cellular phone and keeps it close to her left ear for longer than 1 minute, about 1 hour later her nostril would start to bleed for anywhere between 5-10 minutes before gradually disappearing. Therefore, the author wanted to
OMURA, Y.

see whether administration of the optimal dose of DHEA would stop the appearance of most nosebleeds. Before giving the optimal dose of DHEA, the basic related parameters were examined. Pre-treatment measurements were as follows: average normal tissue Telomere in the upper arm was 50 ng; Acetylcholine at the nose was 50 µg; TXB₂ was 190 ng; DHEA was 1.0 ng at both sides of the nose. Her optimal dose of DHEA was about 12.5 mg. Before the author gave DHEA, he used the Bi-Digital O-Ring Test Virtual Drug Effect Testing method, and estimated what would be the final maximum telomere amount. An optimal dose of about 12.5 mg of DHEA held in the palm of the right hand and covered by 5 fingers of right hand showed a maximum increase in Telomere of 510 ng. Therefore, before the author gave an estimated optimal dose of DHEA 12.5 mg, she used her cellular phone to talk to her friend for 1.5 minutes. The author measured the change in parameters before and after the cellular phone use. TXB₂ increased from 190 ng to 550 ng; Acetylcholine went down from 50 to 25 µg; telomere decreased from 50 µg to 35 ng; DHEA went down to from 1.2 ng to 0.8 ng. Twenty minutes after the cellular phone exposure, she took the optimal dose of DHEA (12.5 mg) and waited for 3 hours; no nosebleeding occurred. Meanwhile, the author examined the changes in the parameters about 20 minutes after and found TXB₂ was less than 1 ng and DHEA was 110 ng; the telomere was 510 ng, and Acetylcholine was 400 µg. Three hours later, no nosebleeds had appeared. Twenty-four hours later, she did not have nosebleeding. Four weeks later, she had the 1st nosebleed after using the phone; however, the amount of the nosebleed was about 30-40% of the previous nosebleeds. About 10 days after the nosebleed, the author was able to reach her for the first time and at that time, the telomere went down to from 510 ng to 55 ng and DHEA went down from 120 ng to 1.5 ng. This low normal cell telomere value, after the effects of optimal dose

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Time Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telomere R-Arm</td>
<td>Before Exposure to Electromagnetic field 50ng 35ng 510ng 510ng 500-510ng 55ng</td>
</tr>
<tr>
<td>DHEA at L-Nose</td>
<td>1.2ng 0.8ng 110ng 120ng 110-120ng 1.5ng</td>
</tr>
<tr>
<td>TXB₂ at L-Nose</td>
<td>190ng 550ng &lt;1ng &lt;1ng &lt;1ng 155ng</td>
</tr>
<tr>
<td>Acetylcholine at L-Nose</td>
<td>50µg 25µg 400µg 450µg 400-450µg 60µg</td>
</tr>
<tr>
<td>L-Nose bleeding</td>
<td>0 0 0 0 0 0 mild nose bleeding after use of cellular phone</td>
</tr>
</tbody>
</table>
of DHEA had disappeared, indicated that there was a possible malignancy. Since Integrin $\alpha_2\beta_1$ and Oncogen C-fosAb$_2$ values were 280 ng at right handwriting while left handwriting had 0.5 ng, cancer of the right side of the body was suspected. Right handwriting also showed strong Bi-Digital O-Ring Test resonance with breast cancer. She will be evaluated in a future meeting by non-invasive screening of cancer.

Clinical Case #6:
Prostate Cancer Promoted by Excessive Daily Dose of DHEA (25 mg) for 3 Months and Safe and Effective Treatment Using Press Needle Stimulation of True St. 36 along with EPA + DHA, Citatnro Tablet, & Folic Acid

A 70-year-old dentist (white male) from South Carolina noticed a lack of energy and low interest in sex, as well as extreme tiredness. He consulted his physician, and the physician suggested that he take DHEA. Thus, he has been taking 25 mg of DHEA every day for the past 3 months. When the author examined his right and left handwriting by Bi-Digital O-Ring Test 3 months after continuous daily intake of DHEA (25 mg), it showed a telomere of both handwritings that indicated about 60 ng, which is abnormally low, and DHEA was extremely low (1 ng) at both right and left handwriting, both of which indicated the possibility of the presence of cancer somewhere in the body. By actually measuring the amount of telomere, the author found a very low amount of 60 ng of average normal cell tissues at both upper arms, and DHEA of both hands was less than 1 ng. Therefore, as a next step, Integrin $\alpha_2\beta_1$ and Oncogen C-fosAb$_2$, which increase in the presence of cancer, were examined from right and left handwritings. Right handwriting showed that both values were 350 ng. Left handwriting showed values of less than 5 ng. This indicated that there was a possibility of cancer in the right side of the body. In order to determine the type of cancer through handwriting, the author used a cancer screening kit consisting of microscope slides of different cancers of different internal organs. By testing resonance between the right handwriting and the microscope slides, the author found Adenocarcinoma of the prostate gland was the only one to show strong resonance by Bi-Digital O-Ring test. DHEA was 1 ng, at both upper arms and other normal parts of the body. Therefore, the author non-invasively screened for the possible presence of cancer, using red spectral soft laser beam with 60 ng of Integrin $\alpha_2\beta_1$ as a control reference substance. This indicated that he had strong positive response at the right prostate gland. Upon questioning, the dentist (for the first time) indicated that recent blood tests for PSA were found to be 12.4 ng/ml of blood. Apparently, the dentist wanted to see if the author could discover this without telling him. At this point, he requested that the author treat his condition without standard surgery, chemotherapy, or radiotherapy. The author gave a choice of a number of possible alternative methods of treatment. He decided to try the author’s well-tested (and frequently successful) safe treatment using True ST. 36 stimulation by inserting a tiny press needle into the center of True ST. 36 acupuncture point, the shape of which is round and the diameter of which is usually between 8-12 mm. At the point described as the traditional acupuncture point ST. 36, using Bi-Digital O-Ring test resonance phenomena between microscope slide of the fundus of the stomach, no acupuncture point could be found at the site described as ST. 36. Instead, at a slightly different location, there is a true acupuncture point that produced strong resonance with microscope slide of stomach tissue which the author described as True ST. 36. Stimulation of True ST. 36
produced all the benefits traditionally associated with ST. 36. When the press needle is inserted into True ST. 36 and stimulated about 200 times by pressing and releasing, abnormally increased cancer cell telomere of over 1100 ng becomes less than 1 yg (1 yg =10^{-24} g) and all other common cancer parameters become close to 0. The exception is Acetylcholine, which is reduced extremely low in cancer tissue (any amount between 1 fg=1 femtogram=10^{-15} g and 1 zg=1 zeptogram=10^{-21} g) and will increase very significantly up to between 40-50 μg. The dentist has seen previously how effective True ST. 36 press needle stimulation can be for cancer patients when combined with a mixture gelatin capsule of EPA (180 mg) and DHA (120 mg) as an anti-viral agent, Cilantro tablet which removes abnormally increased Hg in the cancer cell nucleus, and Folic acid (100 μg) to prevent DNA mutation, when all are applied 4 times daily. He thus decided to try this method that was originally developed by the author about 10 years ago. When the author tried this treatment, normal cell telomere went up from 60 ng to 555 ng, and DHEA of the normal tissue went up from abnormally low 1 ng to 132 ng; cancer cell telomere of the Adenocarcinoma of the right prostate gland was originally around 1150 ng and it decreased to less than 1 yg (10^{-24} g). This improved condition remained for at least two months until the author had a chance to speak with the dentist after treatment. Two months after the treatment, the author wanted to find out what happened after he started doing True ST. 36 stimulation treatment and found his normal cell telomere was still 555 ng, and DHEA of normal tissue was 132 ng. The patient’s general condition improved significantly. All the abnormal cancer parameters reduced to practically 0.

Concerning the daily intake of excessive dose of DHEA (25 mg), retrospectively, in the 1st week after a daily intake of 25 mg DHEA, he noticed that he felt less tired and that his general condition improved, but 1 month after starting to take a daily dose of DHEA of 25 mg, he thought general conditions became worse than before he started taking DHEA. They progressively got worse until True ST. 36 stimulation was initiated. The author has requested that he repeat the standard blood PSA. About 1 month after initiation of present treatment, the standard blood PSA was repeated by the same clinical laboratory. The result indicated that blood PSA reduced from 12.4 ng/ml of blood to 10.0 ng/ml PSA. Since the author was expecting better results than this, in order to find out what was preventing reduction of PSA, the author has decided to see the dentist during the next New York conference.

Clinical Case #: Lung Cancer Induced or Promoted By Excessive Daily Intake of Total of 37.5 mg DHEA for 3 Months

This 68-year-old white male (also a dentist) with body weight of about 65 kg had right and left handwriting which was examined as a part of the demonstration of how to analyze handwriting for possible detection of cancer by measuring the normal cell telomere, DHEA of normal tissue, and Integrin αβ5 (or Oncogen C-fosAb2). Upon examination, the author found his telomere level was extremely low for both right and left handwriting (about 55 ng). DHEA was found to be also very low (2 ng) at both hands. Integrin αβ5β1 in the left handwriting was over 300 ng, but it was only less than 5 ng in the right hand. Therefore, the author screened non-invasively for cancer and found
BENEFICIAL EFFECTS & SIDE EFFECTS OF DHEA

an Adenocarcinoma of the lung-positive area on the left upper chest. Upon questioning, the patient indicated that he was taking the optimal dose of DHEA (12.5 mg) 3 times a day (as determined several months ago as 12.5 mg). He has been taking one optimal dose of DHEA of 12.5 mg 3 times daily for the past 3 months. As a result, the total amount that he was receiving daily was 37.5 mg, which is highly excessive and toxic. Upon examining his previous record, he indicated that at about the same location, the author found the early stages of Adenocarcinoma of the lung, but using True ST. 36 stimulation and a combination of EPA and DHA, cilantro, and the Selective Drug Uptake Enhancement method, his Adenocarcinoma-positive area of the left upper lung completely disappeared for the previous 4 years. The excessive daily intake of DHEA, however, seemed to re-induce the early stages of Adenocarcinoma in the same location.

Clinical Case #8:
Anti-Cancer Effects of One Optimal Dose of DHEA (6 mg) on Breast Cancer.

A 58 year-old Oriental female artist with body weight of about 45kg came to the author’s seminar and workshop with Adenocarcinoma of the right breast between 1:00 and 2:00 position and with a diameter of about 3 cm round shaped area. Integrin α5β1, which increases in the presence of malignancy, was 345 ng, which indicates a strong positive for the presence of malignancy. Normal cell telomere examined in the right upper arm was 85 ng. Cancer telomere of the right breast cancer positive area was 1230 ng. Acetylcholine was 10 fg (=10^-15 g) compared with normal tissue of over 500 µg. She also had Adenocarcinoma of the colon-positive area at the left lower abdomen in the descending colon area and where cancer cell telomere was 1550 ng, Integrin α5β1 was 350 ng, and Acetylcholine was again 10 fg. Her normal cell telomere was 85 ng at both upper arms. Virtual Drug Test indicated that the optimal dose of DHEA was 6mg. When 6mg of DHEA was taken orally, telomere of the right upper arm increased from 85ng to 510ng. Also, the right breast cancer telomere of 1230ng reduced to less than 1yg (= 10^-18 g), colon cancer telomere reduced from 1550ng to less than 1yg, and Integrin α5β1 at both cancer positive areas reduced to less than 1yg. Abnormally reduced Acetylcholine of 10 fg increased to 40 µg. This one optimal dose of DHEA induced changes that made it impossible for cancer cells to divide as cancer telomere was almost 0.

Clinical Case #9:
Anti-Cancer Effects of One Optimal Dose of DHEA (7 mg) on Adenocarcinoma of Prostate Gland

A 60 year-old Caucasian male financial adviser from North Carolina who was suffering from frequent urination, which had recently become worse with an average of 5 to 7 times a night and every 60-90 minutes in the daytime for the past year, was brought by his dentist, Dr. Andrew Pallow of California, to one of the author’s 3 day weekend seminars and workshops in New York City. Recently, he went to a urologist, and PSA was found to be 9.5 ng/ml of blood and a biopsy indicated Adenocarcinoma of left prostate gland in November 2005. He did not wish to have surgery or radioactive needle implantation and wanted to explore any alternative treatment and see the result; based on that, he wanted to determine his future treatment. The previous study indicated that without giving actual medication the author can evaluate potential drug effects very
accurately by using Bi-Digital O-Ring Test Virtual Drug Test. By doing this, the author
does not need to expose the patient to potential danger by giving an overdose of
potentially beneficial medication. The patient’s average normal cell telomere in Bi-
Digital O-Ring Test units indicated a very low value of 60 ng. Again, the previous study
indicated when the average normal cell telomere in Bi-Digital O-Ring Test measurement
at the upper arm was less than 110 ng, frequently there is a cancer somewhere in the
body. Therefore, the author non-invasively screened for cancer by projecting a red
spectrum soft laser placed next to 60 ng of Integrin $\alpha_5\beta_1$ in the hand of the intermediary
person using indirect Bi-Digital O-Ring Test. The laser beam was projected in the right
hand, left hand, supra-sternal notch, between the nipples, navel, right and left inguinal
area, and on the back of the body, including the back of the right and left hands, 7th
cervical vertebrae, in the center of the spine at the back of the chest, the lumbar area,
anus, and the right and left gluteal groove. If there was identical Integrin $\alpha_5\beta_1$ existing in
the area of the body where the laser beam was projected or in its vicinity, it would
produce resonance between the information carried from the laser beam on Integrin $\alpha_5\beta_1$
and its amount. When these have identical amounts, the electromagnetic resonance
would become a maximum. Empirically, when 1 or 2 O-Rings open (-1 or -2), it is
considered to be within normal limits. If 3 O-Rings open (O-Ring test -3), it is
considered to be borderline. If 4 O-Rings (-4) or more O-Rings open, it is considered to
be cancer positive. If 6 O-Rings open (-6), it is considered to be strongly cancer-positive.
In this patient, the right arm was -4, the supra-sternal notch was -6, between the nipples
was -5, navel was -5, both right and left inguinal areas were -6. Therefore, to localize
cancer-positive areas, X-axis and Y-axis laser beam scanning with 60 ng of Integrin $\alpha_5\beta_1$
found that there was a strong cancer-positive area in the upper part of the chest which
was found to have strong resonance with a microscope slide of Adenocarcinoma of the
prostate gland. This indicated possible metastasis of prostate cancer to upper chest. At
the left lower abdomen, there was a strong cancer positive area that produced strong
resonance with Adenocarcinoma of the colon. Then, the entire left prostate gland area
was -6 and part of the right prostate gland was also -6. These prostate gland areas
produced strong resonance with a microscope slide of Adenocarcinoma of the prostate
gland. For this patient, after an informed consent form was signed, optimal dosage of
DHEA was found to be 7 mg when the Virtual Drug Test was performed and when the
effect of DHEA (10 mg) was examined, telomere further decreased from an already
abnormally low level of 50 ng. When the patient was tested with 20 mg of DHEA,
telomere levels became less than 25 ng. However, when the effect of one optimal dose
of DHEA (7 mg) on normal cell telomere was examined, normal cell telomere went up to
520 ng, which is the ideal response, since all of the author’s previous study indicated
when the optimal dose of DHEA is given (usually 1.25 mg-12.5 mg depending upon the
individual), normal cell telomere always increases to anywhere between a minimum of
500 ng and a maximum of 530 ng. In the cancer-positive area, the local amount of
DHEA was always less than 1 or 2 ng and TXB2 was an abnormally high 300 ng, which
indicated the presence of moderate circulatory disturbance in the cancer tissue.
Acetylcholine was 5 ng, which is markedly diminished compared with normal tissue of at
least a few hundred ng, and average cancer tissue telomere was 1300 ng in both prostate
cancer positive area and Adenocarcinoma of colon positive area. Integrin $\alpha_5\beta_1$ was 350
ng, which was very high and a characteristic common finding in the cancer tissue.
Before the author gave an optimal dose of DHEA, the author also noticed that by visual inspection, the hair on the patient’s head corresponding to the organ representation area of the prostate gland was much thinner than the rest of the head. Therefore, the author marked an organ representation area of the prostate gland on the right and left sides of the top of the head. On the right side of the top of the head, located slightly posterior from the center of the head corresponding to the left prostate gland representation area as shown in round-shaped area, there was a strong positive Bi-Digital O-Ring Test resonance with microscope slide of Adenocarcinoma of prostate gland. On the other hand, on the left side of the top of the head corresponding to the right prostate gland in a rectangular shape, a small part of the area had a Adenocarcinoma of prostate-positive response, which indicated either it coexisted at the same time as left prostate cancer or that the left prostate cancer might have spread to part of the right prostate gland. (See figures 4A-4C).

Similarly, the author examined the prostate gland representation area on the sole of the foot. In the left foot, the entire prostate gland representation area in the lateral side of the left heel had a strong positive resonance with Adenocarcinoma of the prostate gland. When the right foot prostate gland representation area was mapped, a small part also produced a strong resonance with prostate cancer, which also indicated that there may be some metastasis to the right prostate gland or coexisted simultaneously as left prostate cancer.

In the palm of the patient’s left hand, a triangular shape corresponding to the prostate gland had a strong Adenocarcinoma of the prostate gland response. On the right hand palm, part of the triangular-shaped prostate gland representation area also showed Adenocarcinoma of the prostate gland response.

When one optimal dose of pure DHEA (7 mg) for this patient was given orally, as the Virtual Drug Test predicted, average normal cell telomere increased from 45 ng to 520 ng. Within 10 minutes after oral intake of one optimal dose of DHEA (7 mg) with water, Integrin α5β1 and cancer cell telomere reduced from 1300 ng to less than 1 yg (=10^-24 g), and TXB2 became reduced from 300 ng to much less than 1 ng. Acetylcholine went up from 5 ag (=10^-16 g) to 40 μg as can be seen in the figures 4a to 4c. When very high cancer cell telomere of 1200 ng is reduced to 1 yg or less, the cancer cell can no longer divide.

The next morning, when the patient came back, he was very happy to report that his frequent urination markedly reduced; in fact for the first time in months he only needed to go to the bathroom once during the night. Also, similarly, daytime urination frequency reduced markedly. Forty-eight hours later, for the first time, he did not wake up even once during the night to use the bathroom. Daytime urination frequency reduced to normal levels, he felt much more vigorous, and it was easier to think and concentrate, because for the 1st time he was able to sleep without interruptions.

During the 3-day weekend seminar and workshop in New York, after initial treatment with one optimal dose of DHEA of 7 mg, without giving any additional medication, the
measurement was repeated daily. The effect remained the same on Sunday afternoon, two days after treatment. In order to prevent possible decrease in normal cell telomere, the patient was supposed to fax the author right and left handwriting samples as well as right and left foot writing samples, from which it was possible to estimate the amount of normal cell telomere and DHEA, as well as any abnormal increase in Integrin α,β₁ or Oncogen C-fos Ab₂. Six days after the first treatment, he has been sending handwriting samples every 3 days which indicate both normal cell telomere and DHEA remained the same after the first treatment; meanwhile, the author requested that he carry out a repeated PSA blood test periodically by the same clinical laboratory. Ten days after initial treatment with one optimal dose of DHEA (7 mg), the standard blood PSA was examined and the value of this laboratory test was reported to be 4.7 ng/ml, which was still slightly higher than the normal range of 0-4 ng/ml. Compared with his initial PSA testing before the author gave one optimal dose of DHEA (7 mg) treatment, there was a significant reduction from 9.5 ng/ml to 4.7 ng/ml 10 days after intake of one optimal dose of DHEA. Twenty days after the first optimal dose of DHEA, the patient’s PSA was repeated and it was further reduced to 3.4 ng/ml. All of these improvements were obtained by only giving one optimal dose of DHEA.

Clinical Case #10:
Safe Anti-Cancer Effects of One Optimal Dose of DHEA (1.5 mg) on Astrocytoma of Brain and Severe Shoulder Pain

A 71 year old dentist came to the seminar and explained how successfully he lost 35 pounds in 1 month. He went from 230 pounds to 195 lbs by eating a special chocolate flavored nutritional supplement called “Chocolate Natural Meal Replacement Bars.” Since it gave the author the impression that losing 35 pounds in one month is an unusually rapid loss, the author wanted to find out what the effect of this rapid body weight loss was on values of the normal cell telomere (and DHEA). When the average value of right upper arm telomere was measured, it was extremely low at 45 ng and normal cell DHEA was also very low at 1 ng at the right upper arm. Therefore, the author immediately suspected the possible presence of malignancy at some part of the body, because average normal cell telomere of less than 110 ng and average normal tissue DHEA of very low value (less than 2 ng) often indicated the possible presence of a malignant tumor somewhere in the body. Therefore, the author non-invasively screened the dentist for possible cancer using 60 ng of Integrin α,β₁ as a reference control substance and red spectrum soft laser beam. The result of the resonance between 60 ng of control Integrin α,β₁ and the same substance in a different part of the body indicated that the right arm and left arm were -5, the supra-sternal notch was -6, between the nipples was -2, and the rest of the body was either -1 or -2. As malignant tumor of the neck or head was suspected, both ear lobules were examined and it was found that only the right ear lobule was -6, which indicated possible malignancy in the right side of the brain. By scanning the brain at the area corresponding to the right hippocampus, there was -6 resonance with 60 ng of Integrin α,β₁, and a number of possible microscope slides of the malignant tumor were examined for resonance. This examination indicated that the round area slightly larger than a quarter (U.S. 25 cent coin) at right hippocampus area had strong resonance with Astrocytoma of the brain. The dentist indicated that recently he noticed he was forgetting things easily; therefore, the author examined both
parameters common to all the malignant tumors as well as \( \beta\)-Amyloid (1-42) which always increases in Alzheimer’s patients’ hippocampus. According to the author’s non-invasive measurement technique, \( \beta\)-Amyloid (1-42) is less than 3 ng in a normal individual. However, in the early stages of Alzheimer’s it increases to 7 ng or higher. In the right side, corresponding to the Astrocytoma positive area, which also occupies the right hippocampus area, \( \beta\)-Amyloid (1-42) was 10 ng (which is equivalent to an Alzheimer’s finding), and in the left hippocampus area, \( \beta\)-Amyloid (1-42) was 2 ng and normal. Although, accidentally, the author detected the very early stages of Astrocytoma, which may or may not be detected by MRI, the patient has no significant symptoms.

The patient’s chief complaint was persistent severe pain (of grade +8 on a 0-10 pain scale) in his right shoulder spastic muscle, which was originally developed while he was traveling in Hungary and exposed to cold weather with strong wind blowing on his neck.
For his painful spastic shoulder muscle, he received a local intramuscular injection by a paramedical for recurrent shoulder muscle spasticity. The location where the injection was made became more painful and more spastic. The Virtual Drug Test predicted that his optimal dose of DHEA would be 1.5 mg and maximum normal cell telomere of right upper arm would be 500 ng. Because of severe shoulder pain, he decided to try one optimal dose of DHEA for possible improvement of the severe shoulder pain and possible brain tumor, Astrocytoma. Since the amount of his optimal dose of DHEA was extremely low (1.5 mg), the author suspected that he was most likely taking DHEA. Upon questioning, he indicated that he took about 6 mg of DHEA 2 days earlier.

In the following tables, changes in various parameters after taking one dose of the optimal dose of DHEA (1.5 mg) are summarized. Within 5 minutes after taking one optimal dose of DHEA, the patient’s severe shoulder pain reduced to 0 in about 80% of the painful area, with the exception of a small painful area where the injection was originally made; this area was reduced to a +4 pain grading from the original +8 pain grading. His average normal upper arm tissue telomere increased from 45 ng to 500 ng with an increase of DHEA from 1 mg to 110 mg.

In addition to this Astrocytoma of the brain, recently the author already examined the effects of one optimal dose of DHEA with patients with much larger Astrocytoma tumors. They were evaluated before and after one optimal dose of DHEA. One female patient, about 50 years old, who already had surgical removal of the tumor, received radiotherapy and chemotherapy after surgery. Supposedly, the tumor’s activity was arrested. Upon examination, the author found malignant cell telomere was extremely high (over 1500 ng), which can only be found in the active form of Astrocytoma or Glioblastoma Multiforme. Integrin $\alpha_\beta$, and Oncogen $c$-fos $\alpha_b$ amounts were extremely high (over 500 ng). Again, this can only be seen in the active forms of these tumors. DHEA of tumor was less than 0.1 ng. DHEA in normal parts of the body was less than 1 ng. The patient was taking about 20 different nutritional supplements at the time. When the author examined her, most of them were toxic. When the author gave the optimal dose of DHEA, all of the patient’s cancer parameters became practically 0. Acetylcholine was markedly reduced, increased from about 1 ug to 40 ug. Similarly, the author found in another dentist with an extensive area of the brain with an Astrocytoma strong-positive response, with all the measurable abnormalities with the Bi-Digital O-Ring Test. However, because of very early stage detection of malignancy, he did not have any symptoms. Still, his normal cell telomere and normal cell DHEA were extremely low,

<table>
<thead>
<tr>
<th>PAINFUL RIGHT SHOULDER</th>
<th>Before optimal dose of DHEA</th>
<th>10 min. after one optimal dose of DHEA (1.5 mg)</th>
</tr>
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<tbody>
<tr>
<td>Substance P</td>
<td>220 ng</td>
<td>1 ng</td>
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<tr>
<td>TXB$_2$</td>
<td>650 ng</td>
<td>0.5 ng</td>
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<tr>
<td>Bradykinine</td>
<td>155 ng</td>
<td>0.2 ng</td>
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<tr>
<td>Folic Acid</td>
<td>&lt; 1 yg</td>
<td>40 ng</td>
</tr>
<tr>
<td>DHEA</td>
<td>1 ng</td>
<td>110 ng</td>
</tr>
<tr>
<td>Pain (0-10 pain grading)</td>
<td>+8</td>
<td>0-+3</td>
</tr>
<tr>
<td>ASTROCYTOMA OF RIGHT HIPPOCAMPUS</td>
<td>Before DHEA</td>
<td>After taking optimal dose of DHEA (12.5 mg)</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-------------</td>
<td>------------------------------------------</td>
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<tr>
<td>Telomere</td>
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<td>1 ng</td>
</tr>
</tbody>
</table>

which initiated screening of the cancer. The hand writing and mouth writing, before administration of one optimal dose of DHEA, showed an extremely high abnormal value of Integrin α₃β₁ and Oncogen C-fosAb₂ on the same side of the tumor.

Case #11 (Non-Clinical)

On September 24, 2005 the author examined the effects of optimal dose of DHEA on the normal cell telomere and DHEA levels for about 20 dentists and medical doctors. Regardless of the original amount of the normal tissue telomere and DHEA, in every person who was given an optimal dose of DHEA, estimated by Virtual Drug Testing, their amount of normal cell telomere went up anywhere between 500-530 ng. Because of this, the author himself decided to try one optimal dose of DHEA on himself. At that particular week, for some reason, most of the volunteers (of more than 20 M.D.s and D.D.S.s) had relatively low telomere compared to any previous meetings. This could be due to extraterrestrial electromagnetic field or other unknown force. Because of this, everyone wanted to take the optimal dose of DHEA. The result was that regardless of original values of normal cell telomere and DHEA at upper arm, everyone who participated had their normal cell telomere increase to between 500-530 ng. The author labeled each of them who had their telomere increase to 500 ng or more as members of the 500 ng Club. They had their telomere and DHEA examined every day during the meeting. Between subsequent meetings, their average normal cell telomere and DHEA were estimated by examining right and left hand writing. As they provided almost the same value as direct measurement from actual individuals, the telomere and DHEA of many members of the 500 ng Club were examined once every 3 to 7 days by faxing right and left hand writings. However, about 22 days later, only the author’s telomere was reduced to 105 ng at 9PM on October 16. The reason behind this sudden decrease in telomere was that the author was working day and night with very little sleep to finish a 4-day scientific program of the 21st Annual International Symposium on Acupuncture, Electrotherapeutics, & the Bi-Digital O-Ring Test held at the School of International Affairs at Columbia University. In the previous 3 days, the author only had an average of 3 hours sleep, sitting in front of the computer, with an air conditioner immediately
behind him. Although the air conditioner was off, the space between the air conditioner and window allowed a cold breeze to blow through the room. Cold air was blowing and the room was extremely chilly, although he did not measure the actual temperature. When the author measured the telomere at 9:00 pm on October 16, it was reduced to 105 ng, while at noon time on the same day it was 500 ng. Therefore, without taking an additional optimal dose of DHEA, the author decided to make the room warmer by preventing the cold air from coming into the room and to get enough sleep. One day later, the author examined the normal tissue telomere of the upper arm and it had gone up to 115 ng. Two days later, it had gone up to 180 ng. At that point, the author had 2 nights of good rest and had prevented exposure to cold temperature. During this period, the author examined DHEA and TXB2 at the right hand, eyes, heart, hippocampus, motor cortex, pons, and Medulla Oblongata. As can be seen, when normal tissue telomere at right hand was 105 ng, DHEA was extremely low at 1.5 ng in the right hand. This usually indicated a high probability of the presence of a malignant tumor somewhere in the body. The rest of the organs listed had less than 1 ng of DHEA. After 2 days of good rest and a warmer environment, normal cell telomere went up to 180 ng, but DHEA

<table>
<thead>
<tr>
<th>Normal Tissue Telomere at R-hand</th>
<th>Oct. 16, 2005 9:00 p.m.</th>
<th>Oct. 17, 2005 11:00 a.m.</th>
<th>Oct. 18, 2005 3:00 a.m.</th>
<th>After optimal dose of DHEA (5 mg) 3:20 a.m.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DHEA (TXB2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-hand</td>
<td>105 ng</td>
<td>115 ng</td>
<td>180 ng</td>
<td>500 ng</td>
</tr>
<tr>
<td></td>
<td>(275 ng)</td>
<td>(220 ng)</td>
<td>(65 ng)</td>
<td>(0.5 ng)</td>
</tr>
<tr>
<td>Eyes</td>
<td>1.5 ng</td>
<td>5 ng</td>
<td>11.5 ng</td>
<td>125 ng</td>
</tr>
<tr>
<td></td>
<td>(275 ng)</td>
<td>(220 ng)</td>
<td>(65 ng)</td>
<td>(0.5 ng)</td>
</tr>
<tr>
<td>Heart</td>
<td>0.16 ng</td>
<td>0.22 ng</td>
<td>0.21 ng</td>
<td>0.1 ng</td>
</tr>
<tr>
<td></td>
<td>(150 ng)</td>
<td>(125 ng)</td>
<td>(75 ng)</td>
<td>(100 ng)</td>
</tr>
<tr>
<td>Hippocampus</td>
<td>0.1 ng</td>
<td>0.14 ng</td>
<td>0.14 ng</td>
<td>0.1 ng</td>
</tr>
<tr>
<td></td>
<td>(125 ng)</td>
<td>(105 ng)</td>
<td>(105 ng)</td>
<td>(125 ng)</td>
</tr>
<tr>
<td>Motor Cortex</td>
<td>0.15 ng</td>
<td>0.65 ng</td>
<td>0.65 ng</td>
<td>0.15 ng</td>
</tr>
<tr>
<td></td>
<td>(175 ng)</td>
<td>(105 ng)</td>
<td>(105 ng)</td>
<td>(175 ng)</td>
</tr>
<tr>
<td>Pons</td>
<td>0.15 ng</td>
<td>0.65 ng</td>
<td>0.65 ng</td>
<td>0.15 ng</td>
</tr>
<tr>
<td></td>
<td>(175 ng)</td>
<td>(105 ng)</td>
<td>(105 ng)</td>
<td>(175 ng)</td>
</tr>
<tr>
<td>Medulla Oblongata</td>
<td>0.22 kg</td>
<td>0.25 kg</td>
<td>0.25 kg</td>
<td>0.22 kg</td>
</tr>
<tr>
<td></td>
<td>(175 ng)</td>
<td>(105 ng)</td>
<td>(105 ng)</td>
<td>(175 ng)</td>
</tr>
<tr>
<td>Grasping Force</td>
<td>22 kg</td>
<td>25 kg</td>
<td>30 kg</td>
<td>37 kg</td>
</tr>
<tr>
<td></td>
<td>(22 kg)</td>
<td>(25 kg)</td>
<td>(30 kg)</td>
<td>(37 kg)</td>
</tr>
</tbody>
</table>

Table 1. Effects of Oral Intake of One Optimal Dose of DHEA on 71 year-old Male on his Normal Cell Telomere and TXB2 at Different Parts of the Body (R-hand, Eyes, Heart, Hippocampus, Motor Cortex, Pons, Medulla Oblongata) and Grasping Force.
OMURA, Y.

went up to only 11.5 ng. Meanwhile, very low DHEA and very high TXB2 indicated the presence of circulatory disturbances. When the amount of telomere and DHEA of the normal tissue was very low, and TXB2 was relatively high, grasping force of both right and left hands was also reduced. When the telomere went up to 180 ng, the grasping force increased. On October 18, at 3 A.M. and when the telomere was 180 ng, the author repeated the other parameters and the grasping force of right and left hand and decided to find out what changes parameters might take place if an optimal dose of DHEA was taken. As can be seen from the following table, the optimal dose of DHEA (5 mg) was estimated for the author by Virtual Drug Testing, which indicated a potential maximum value of telomere to be 500 ng. Therefore the author took one optimal dose of DHEA orally.

About 20 minutes after oral intake of one optimal dose of DHEA (5 mg), all of the measurements were repeated. DHEA in the hand increased from 11.5 ng to 125 ng in the hand, and TXB2 reduced from 65 ng to 0.5 ng. DHEA in eye, heart, hippocampus, motor cortex, pons, and Medulla Oblongata all increased from 1 ng to 40 ng (the eye to 30 ng). TXB2 in all areas reduced to less than 1 ng, which represented completely normal circulation. Grasping force measured by hand dynamonometer in the right hand went up from 30 kg to 37 kg, which was approximately a 25% increase. The left hand grasping force increased from 24 to 29 kg, which was approximately a 20% increase. This grasping force measurement was an average of 3 repeated trials with each hand. Therefore, at least, one can state that an oral intake of one optimal dose of DHEA (5 mg) increased the grasping force between 20-25% in this particular study. See the following table for all of the results.

Case #12 (Non-Clinical)
Effects of Optimal Dose of DHEA (5 mg) Intake On Black and White Hairs of the Head

Since the author took one optimal dose of DHEA on September 24, 2005, after normal cell telomere rapidly reduced from 500 ng to 105 ng on October 16, 2005 (after 22 days of effective period) until the 2nd optimal dose of DHEA was consumed, there was a 3-day period of relatively low body DHEA. After 2nd optimal dose of DHEA was taken on October 18, the author’s telomere remained between 500-530 ng depending on what the author ate or drank. For example, when the author swallowed cactus honey powder (1 g) or when he drank plum wine or red port wine (15-25 cc), the telomere increased an additional 15-50 ng temporarily. The average DHEA level at a normal part of the body was anywhere between 115-130 ng. On December 20, 2005, while the author was washing his face and combing his hair, he noticed that some of the hair came out in the comb. The author had a very interesting finding; namely, some of the hair that came out was white for the same length at the upper part of one long hair and then changed to black all the way to the root. Among about 35 hairs collected by repeated combing, there were 2 such hairs, and the rest of the hair was either completely black or completely white.

The author placed some of these detached hairs on a white sheet of the surface of typing paper and fixed them with Bi-Digital O-Ring Test positive Scotch tape. The author numbered them from 1-4. Number 1 was completely white, from tip to root, with about 8.3 cm from the root containing detectable DHEA with 0.5 pg (1 picogram = 10^-12 grams)
DHEA sample. Number 2 was white at the upper part, with a small portion of the lower part black (this hair, however, lost the root). Number 3 had a 3 cm white upper part of hair and the remaining 9 cm of hair was black, including the root. The bottom 8.3 cm contains detectable DHEA (with 0.5 pg DHEA sample). Number 4 was entirely black. 8.3 cm from the root contained a detectable amount of DHEA (with 0.5 pg DHEA sample). Number 5 and Number 6 were pulled out together. Number 5 was entirely white, with the first 8.2 cm containing detectable DHEA (with 0.5 pg DHEA sample). The entire length of hair Number 6 had a black color but 8.3 cm of the lower part from the root had detectable DHEA (with 0.5 pg sample). This lower 8.3 cm of hair from the root containing a minimum of 0.5 pg of DHEA was grown between September 24 and December 20, during a period of about 3 months. This indicated that the hair of the author’s head grows at a rate of about 2.6 cm/month (1 inch = 2.54 cm). In all of these hairs, within every 8.3 cm of black part of hair from the root of the hair, there was about 2 mm with very low DHEA of 0.1 fg (1 femtogram = \(10^{-15}\) grams), which corresponded to the time the author’s telomere was very low before he took the 2nd optimal dose of DHEA (5 mg). Beyond 8.3 cm of black part of hair from the hair root, DHEA can be detected only with very low DHEA of 0.1 fg. The big difference between white hair and black hair is that all the black hair at the first 2-3 mm from the root contains about 5-20 pg of DHEA, which is the highest in any part of the hair. The white hairs, beginning at the root, in the first few mm, contain a maximum of 5-10 pg of DHEA. From this, it is possible to conclude that after oral intake of one optimal dose of DHEA, the detectable amount of DHEA in the hair also increased in the part of the hair grown after DHEA was given. The root of the white hair often had half of the amount of DHEA of the root of the black hair. Also, from hair Number 2 and Number 3, one can state that after optimal dose of DHEA was taken, some of the white hair changed to black hair. The ratio of such a change of the hair was found only in 2 hairs out of 35 hairs. The remaining 33 hairs were either full white or black, with about half being each. This finding indicated that by taking one optimal dose of DHEA and keeping normal cell telomere of upper arm over 500 ng and DHEA to be 120-130 ng, some of the white hair had the possibility to change to black hair.

At the time the final manuscript of this article was prepared, the sheet with 6 hairs described in this article disappeared and therefore the author repeated similar measurements with newly collected 3 hairs obtained by combing hair (A: one 14.4 cm hair consisting of the upper part (4.7 cm) was white hair and the remaining 9.7 cm between the root and the end of the white part was black hair, B: one was completely black hair with 13.5 cm length between the root of the hair and the tip of the hair, and C: one hair was entirely white with length of 13.8 cm between the root of the hair and the tip). However, this time the author measured the amount of Melatonin and DHEA at different parts of the hair. In the particular hair A with white upper part and black lower part at a distance of 10.2 cm from the root, Melatonin suddenly increased from 1 pg to 3 pg and DHEA slightly increased from 0.3 pg to 0.35 pg. The color of the hair at this point was still white. At 9.7 cm from the root of the hair, Melatonin increased to 4 pg and DHEA increased to 0.55 pg. Below that point, the hair became visibly black until the root of the hair. This increase of Melatonin from 1 pg to 3 pg may correspond to September 24, 2005, when the author took one optimal dose of DHEA, 5 mg, which increased the author’s normal cell Telomere from the low value of 120 ng to over 500 ng.
Figure 6: Amount of Melatonin & DHEA measured in 3 different hairs of the same head of a 72-year old male of Japanese origin and his corresponding average normal cell telomere. A) The 1st hair consists of a white upper part of the hair followed by a black part of the hair, which ends at the root of the hair. This indicated that the white hair changed to black hair shortly after an optimal dose of DHEA (5 mg) was taken on September 24. B) The 2nd hair is entirely black. C) The 3rd is entirely white. The 1st date the Telomere was increased from about 120 ng to 500 ng after taking one optimal dose of DHEA (5 mg) was September 24. That should correspond to around the time the amount of DHEA and Melatonin in the above 3 hairs significantly began to increase. In the part of the hair above the wide arrow was the time when the normal cell Telomere went down to 105 ng on October 16, and then by October 18, it went up to 180 ng and the 2nd optimal dose of DHEA (5 mg) was taken and normal cell telomere went up to 500 ng. Until these hairs were collected on January 15 the average normal cell Telomere of over 500 ng was maintained for about 3 months after one optimal dose of DHEA (5 mg) was taken on October 18. In the reproduced copy, the white hair becomes invisible, but just above the upward arrow the white hair is indicated. All the black hair has relatively high Melatonin of over 30 pg within 4 mm from the root of the hair, but white hair has Melatonin of less than 3 pg in the same area near the root of the hair. Melatonin in the rest of the black hair is usually 10 pg or higher, while in the white hair it is less than 2 pg.
A significant increase in DHEA appeared 9.7 cm from the root of the hair. The wide arrow may correspond to October 16, 2005, when the author’s Telomere went down to 105 ng. Until October 18 at 3:20 AM after a second dose of one optimal dose of DHEA (6.25 mg) was taken, Telomere again increased to over 500 ng. Just before the second dose of the optimal dose of DHEA, 5 mg, was taken normal cell telomere was 180 ng. Both black hair and white hair also had similar very low Melatonin and DHEA levels. There was a period shown by a wide arrow where Melatonin and DHEA were very low. Compared with the previous study, Melatonin measurement provided new information that indicated that under normal conditions, in order to have a black hair, Melatonin usually should be 4 pg or higher but the change of the hair color required more than 3 days, as can be seen as exception where area corresponding to wide arrow had very low Melatonin of 0.1 pg but hair did not change to white. As can be seen from Figure 6 showing measurements of the Melatonin and the DHEA of 3 hairs, when the normal cell Telomere was relatively low the corresponding part of the hair would show significantly reduced amount of Melatonin and DHEA. Hair root of the black hair had relatively high Melatonin level of more than 30 pg, while white hair root had very low Melatonin level of 2 pg, which was 1/15 of the black hair root. In these newly collected 3 hair examples, the amount of DHEA did not show significant correlation, contrary to previous hair analysis. Judging from this simple analysis of the amounts of Melatonin and DHEA in hairs of the same person’s head it is most likely possible to measure many other biologically important substances from even one hair. This finding indicates that one optimal dose of DHEA seems to gradually increase the amount of Melatonin in both white and black hair. Therefore, it may be possible to accelerate this tendency by simultaneously, with one optimal dose of DHEA, giving an optimal dose of Melatonin. This may further accelerate an increase in the amount of Melatonin in the hair and increase the possibility of changing white hair to black hair or darker hair. However, most of the commercially available Melatonin tablets are 3 mg or higher, which is already an overdose for most individuals. An optimal dose of Melatonin is usually 1.5 mg or less and therefore, one should be careful not to take an excessive dose of Melatonin.

DISCUSSION & SUMMARY

Initially, the author tried to find out why DHEA is beneficial for some and harmful for others and suspected that an overdose may cause harmful effects and an optimal dose may produce many beneficial effects. To evaluate this concept, the optimal dose of DHEA was measured using Virtual Drug Test based on Bi-Digital O-Ring Test for different individuals with different ages and sex and found that the optimal dose ranges anywhere between 1.25-12.5 mg for the age group between 20-80 years old, for both male and female, contrary to commonly recommended daily intake of 25-50 mg or even higher dose of 50-100 mg. Up to now, 50 subjects (25 were M.D.s and D.D.S.s who volunteered and 25 were patients with a variety of medical problems) have been given the optimal dose, regardless of the amount of pre-treatment telomere and DHEA. After taking an optimal dose of 1.25-12.5 mg of DHEA, the amount of telomere of normal tissue measured at the right upper or lower arm always became between 500-530 ng, regardless of age, sex, and original amount of average telomere, and they all became
members of the “500 ng Club.” However, when 25 mg of DHEA was tested with Virtual Drug Testing, telomere went down much lower than pre-treatment value (Age-promoting effect) and often went down below 80 ng and cancer parameters were increased. When 50 mg was tested with Virtual Drug Testing, telomere, regardless of how much was pre-treatment value, went down below 40 ng with further increase in cancer parameters. Therefore, it was potentially harmful to take a toxic overdose of 25 mg or 50 mg of DHEA. Furthermore, if it was taken every day, not only would normal cell telomere amount become extremely low, but it would also promote cancer. On the other hand, when one optimal dose of DHEA was given, it had safe, excellent anti-cancer effects. It reduced abnormally increased cancer cell telomere of over 1100 ng to less than 1 yg, while increasing normal cell telomere to anywhere between 500 ng and 530 ng. This was a true anti-aging effect.

In this study, there were 2 groups of subjects between 20 and 80 years old, both male and female. Due to the participants being located in different cities all over the United States, as well as in Japan and Germany, it was not always easy to follow-up; follow-up was accomplished by receiving right hand writing and left hand writing every 3-7 days by fax. All of these clinical cases and all other additional tests resulted in the following conclusions:

1) Amount of telomere estimated with Virtual Drug Testing was almost always identical to real drug test results measured within 10-60 minutes after the individual took the same actual medication;

2) Regardless of the amount of telomere measured before, within 10 minutes after oral intake optimal dose of DHEA with water, telomere levels of the normal tissue measured at the right upper (or lower) arm always went up a minimum of 500 and a maximum of 530 ng, depending on the individual, and the effects lasted for at least 3 months in most of the volunteers after taking one optimal dose;

3) DHEA at different parts of the body increased to a maximum of 120-130 ng within 10 minutes after oral intake of optimal dose of DHEA;

4) When average normal cell telomere of arm was persistently less than 110 ng, often a malignant tumor existed somewhere in the body (if normal cell telomere was less than 50 ng and persisted, then the possibility of AIDS also existed);

5) When very low DHEA (measured at upper (or lower) right arm) persisted, particularly when it was less than 2 ng, cancer almost always existed somewhere in the body;

6) Circulatory disturbance with abnormally increased TXB\textsubscript{2} and pain with increased Substance P and Bradykinine were both markedly improved by taking one optimal dose of DHEA estimated by Virtual Drug Test;

7) Grasping force increased anywhere up to 25% in right and left hand within 10 minutes of oral intake of one optimal dose of DHEA estimated by Virtual Drug Test;
8) After taking one optimal dose of DHEA some of the white hair of the head due to
aging changed to black hair.

9) After taking an optimal dose of DHEA, estimated by the Virtual Drug Test, the
amount of average normal cell telomere measured by Bi-Digital O-Ring units, reached
anywhere between 500-530 ng and DHEA of normal parts of the body reached
between 120-130 ng, but the following factors reduced the beneficial effects of one
optimal dose of DHEA on telomere. The factors are (although they are dose
dependent):

   a) Smoking
   b) Additional DHEA (initial optimal dose or higher dose than optimal dose)
   c) Excessive dose of steroid hormones taken orally or used as a skin cream
      or ointment containing a large amount of steroid hormones (to reduce
      inflammation of skin)
   d) Non-steroidal anti-inflammatory drugs (NSAIDs), including Aspirin (even
      with baby Aspirin), Tylenol (Acetaminophen), and Advil (Ibuprofen)
   e) Neurontin (Anticonvulsant with potential side effects) used for pain
   f) Topamax (Anticonvulsant with potential side effects) used for pain
   g) Vitamin C
   h) Synthroid (112 μg or higher)
   i) Caffeine
   j) Vitamin E (over 200 IU)
   k) Saiko-Keishi-Tou (Tsumura 10)
   l) Cilantro (negative effect is less than baby Aspirin)
   m) Excessive doses of Folic Acid (more than 200-400 μg, depending on the
      individual)
   n) Excessive doses of Vitamin B12 (more than 350-750 μg)
   o) Prolonged exposure to low temperatures
   p) Extreme physical exhaustion, including extreme tiredness of the eye
   q) Physical trauma
   r) Exposure to strong electromagnetic field from various electrical devices,
      including cellular phone, particularly while holding the phone and talking
   s) Wearing Bi-Digital O-Ring Test strong negative materials, including
      some of the following: underwear, necklace, watch with positive polarity
      of battery indirectly contacting body surface, hair dye, eyeglass, cosmetic
      materials, jewelry, socks
   t) Stress
   u) Watching a scary movie

Among the above listed items, some of the substances are widely used every day, but
there is no evidence that they shorten life span significantly. Therefore, some of these
effects may not last for a long period of time and also the side effects of all of these dose-
dependent substances may be minimal or non-existent and a small amount is still
desirable for some people.
10) When an optimal dose was used, the following well-known beneficial factors had a significant telomere-increasing effect (38-41, 64-92). However, with the exception of DHEA, the effects usually did not last more than a maximum of a few days, and a minimum of a few hours.

a) One optimal dose of DHEA
b) Press needle stimulation of acupuncture point True ST. 36 3-4 times a day. Each stimulation consisted of 200 press and release sequences.
c) Application of (+) Qi-gong energy stored paper
d) Application of (+) special solar energy stored paper
e) Optimal dose of Noni juice or dried Noni
f) Optimal dose of Shilajit
g) Optimal dose of combination of EPA with DHEA, folic acid, and special Cilantro tablet
h) Optimal dose of Cactus honey or Cactus honey powder (about 2-5 g)
i) Optimal dose of Grape seed extract (about 100-150 mg)
j) Optimal dose of combination of α-Lipoic Acid and Acetyl-L-Carnitine
k) Optimal dose of Co Q₁₀
l) Optimal dose of Calcium Pyruvate
m) Drinking small amounts (15-30 cc) of Bi-Digital O-Ring Test positive alcohol, such as Plum wine, Red Port wine, Baileys Original Irish Cream, Courvoisier Cognac, and Cointreau
n) Watching cheerful movies
o) Laughing

The author also evaluated not only the above substances’ normal cell telomere increasing effects and cancer cell telomere reducing effects, but also studied how long these effects would last. Due to space limitation, this information could not be included in this article.

Within the past several years, the author has examined many drugs or nutritional supplements which were supposed to prolong life span. When the drugs were evaluated, many of them with recommended doses produced significant reduction in the normal cell telomere and increased cancer cell telomere. In addition, even among the substances that were tested to be Bi-Digital O-Ring Test positive, some of them reduced the telomere. Therefore, from this study one can conclude that any substance that increases normal cell telomere significantly can be considered as a true Anti-aging substance and safe Anti-cancer substance. Any substance that reduces normal cell telomere significantly can be called a true Age-promoting agent and they also promote cancer and cancer parameters (Cancer-promoting agent). The author found that any substance that increases normal cell telomere significantly, while decreasing cancer parameters and reducing cancer cell telomere to less than 1 yg, is a true Anti-aging and Anti-cancer substance. Therefore, true Anti-aging substances have safe true Anti-cancer effects.

Until the author performed this study, it was always uncertain why some report DHEA as a miracle drug, as the drug can produce so many beneficial effects, and others claim DHEA to be a potential danger of promoting cancer of the breast and prostate gland. However, the author’s study clearly indicated many desirable beneficial effects,
including significant increase in normal cell telomere (=true Anti-aging effects), and a marked decrease in cancer cell telomere (=safe and true Anti-cancer effects), improving circulation, reducing pain, and increasing muscle strength and the significant Anti-cancer effects for prostate cancer and Astrocytoma of the brain, as well as Adenocarcinoma of the colon, Adenocarcinoma of the lung, Adenocarcinoma of the breast, and small cell carcinoma of the lung, although some of these were not included in this study. These many desirable effects can be obtained by a single optimal dose of DHEA, which varies depending on the individual. This ranges between 1.25 mg and 12.5 mg. The effects of this single optimal dose often lasted 1-4 months as long as DHEA canceling negative factors is not introduced. On the other hand, daily intake of an overdosed amount of DHEA decreased normal cell telomere (=Age-promoting effects), with an increase in cancer cell telomere (=Cancer-promoting effects). Unfortunately, many popular books recommend daily intake of undesirable overdose of 25-50 mg, and some even recommend 50-100 mg daily. While no other drug tested has such long-lasting effects as one optimal dose of DHEA, with most other drugs, one optimal dose lasts between several hours to a maximum of a few days. In most people the effects of one optimal dose of DHEA can last at least 3-4 months, but because of additional intake or exposure to the inhibiting factors of DHEA, the effect does not last in some individuals. Also, the effect of DHEA often appears within 10 minutes after oral intake of one optimal dose, unlike many other medications. Although further research is necessary, the author hopes that the result of the present study can contribute to prevent the problem being created by taking daily excessive overdose of DHEA.

ACKNOWLEDGEMENTS

The author wishes to acknowledge the help received for valuable pure reference control substances and some of the references required for this study: Dr. Yasuhiro Shimotsuura, M.D., F.I.C.A.E., Vice President of Japan Bi-Digital O-Ring Test Medical Society and his associate, Mr. Motomu Ohki, M.Sc., F.I.C.A.E., both of them of ORT Life Science Research Institute, Kurume City, Fukuoka-Ken, Japan. The author is also grateful to the following physicians and dentists who are active members of the International College of Acupuncture & Electro-Therapeutics and who have helped in clinical cases: Dr. Edward Spiegel, D.D.S., F.I.C.A.E., Former Director of CME Program of American Academy of Head, Neck, and Facial Pain, and CEO of Health Technology Inc., Phoenix, Arizona, Dr. Marilyn K. Jones, D.D.S., F.I.C.A.E., Director of Holistic Dental Clinic, Houston, Dr. Harsha Duvvi, M.D., M.P.H., F.I.C.A.E., Assistant Professor, Dep’t of Community and Preventive Medicine, and of Dep’t of Neurology, New York Medical College, Dr. Abraham Henoch, M.D., F.I.C.A.E., Attending physician at family practice dept., Columbia University Medical Center; Dr. Andrew Pallos, D.D.S., Director of Holistic Dental Clinic of Laguna Niguel, California, Dr. Ignatius J. Kazella, D.D.S. of New Jersey. Mr. Victor Wong, B.Sc. & Miss Junko Furuya & Miss Diana Gerometta, M.S. for their volunteering work in these studies. The author also wishes to acknowledge the help in preparation of this manuscript from part-time research assistants of the Heart Disease Research Foundation: Mr. Filip Jagodzinski, M.S., PhD candidate in artificial intelligence at University of Massachusetts at Amherst; Mr. Lawrence Kurtzman, Post-Baccalaureate Premedical Sciences at Columbia.
University; Miss Alison Hutchins, Graduate of North Carolina State University with a B.S. in Microbiology and a B.A. in Chemistry.

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57. Omura Y. “Connections found between each meridian (heart, stomach, triple burner, etc.) & organ representation area of corresponding internal organs in each side of the cerebral cortex; release of common neurotransmitters and hormones unique to each meridian and corresponding acupuncture point & internal organ after acupuncture, electrical stimulation, mechanical stimulation (including shiatsu), soft laser stimulation or Qi Gong.” Acupuncture & Electro-Therapeutics Research, The International Journal, Vol. 14, pages 155-186, 1989.


Last Minute Developments for Clinical Case # 2 as a Supplement to Page 13:

About 20 days after the initial treatment, the author received a fax from the graduate student, who is visiting in Tokyo. When the author examined the left handwriting, it showed strong abnormality (-6) of Bi-Digital O-Ring Test, while the right handwriting had a mild abnormality of (-2). When the telomere was examined, both right and left handwriting showed an extremely low value of only about 20 ng, with a brief note stating that some of his symptoms came back. When the author examined the telomere through
a telephone, both sides of the hand were also 20 ng. The only way 500 ng of telomere a few days ago is going to reduce to 20 ng is that he must have taken some drug that strongly inhibited DHEA. Upon questioning, he indicated that about 3 days ago he caught a cold and developed a fever of 38°C and therefore he took cold medicine that contained Ibuprofen (450 mg with 5 other chemical components). He took this twice in one day and the next day he noticed that his previous discomfort gradually came back in a mild degree. He has very fragile skin, particularly on the face, and he put on his face some cream that contained a large concentration of some steroid hormone, which is supposed to reduce inflammation of the skin. Then he noticed that after applying the cream on his face, the pain further gradually came back again and the left side of the body became very weak and the pain in his right knee came back to about pain grading of +4 on a 0-10 grading system. When he left New York, about 20 days earlier, the author gave him some DHEA to keep and using that, the author evaluated through telephone the optimal dose of DHEA using Virtual Drug Testing. The optimal dose came out to be about the same amount as before (6.25 mg) with estimated telomere of 505 ng. After he took this optimal dose, within 10 minutes his normal cell telomere in the arms went up to 505 ng, as predicted from Virtual Drug Test based on Bi-Digital O-Ring Test, and pain reduced from +4 to +2. The 1st time the author gave the 1st one optimal dose of DHEA, the pain disappeared completely within 10 minutes, but this time it took longer. About half an hour after taking optimal dose of DHEA, all of his pain and weakness in the left half of the body disappeared. At this point, the patient sent his handwriting and both handwritings, before and after taking one optimal dose of DHEA, are shown below. One hour after treatment, the handwriting shown below also indicated that the Bi-Digital O-Ring Test becomes a strong positive of (+3) in both right and left handwritings. Telomere of both right and left handwritings was 505 ng. At this point, the author decided to evaluate the same cold medicine he took, and when he held one recommended dose his average normal cell telomere went down to 20 ng. However, as soon as the drug was removed from his closed palm, average normal cell telomere in the hand went up to 505 ng again. Then the author requested that he hold the face cream he put on his face. Instead of putting it on his face, he kept it in his closed palm of his left hand. Again, telomere went down to 20 ng. When he removed the cream from his hand, his telomere went back up to 505 ng. This indicated that both his cold medicine and face cream containing steroid hormone were responsible for his drastic reduction of average normal cell telomere from 505 ng to 20 ng. As a result, the author requested that the patient not take these drugs any longer without first having the author evaluate any medication.

Before 2nd optimal dose of DHEA (6.25 mg) was given, with pain in the right knee & weakness of the left extremeties

<table>
<thead>
<tr>
<th>L-hand</th>
<th>R-hand</th>
</tr>
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30 minutes after one optimal dose of DHEA (6.25 mg) was given, with no symptoms

<table>
<thead>
<tr>
<th>L-hand</th>
<th>R-hand</th>
</tr>
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