

THE USE OF Ai/E¹⁰® IN CONJUNCTION WITH A HOLISTIC TREATMENT MODEL FOR NATURAL KILLER CELL STIMULATION IN CHRONIC ILLNESS

Solstice Clinical Associates, Tucson, Arizona, July, 1998

Abstract

The dietary supplement Ai/E¹⁰® has been shown to elevate NK Cell activity in humans in earlier studies. Here a longitudinal evaluation of the natural killer cell (NK activity) of peripheral blood lymphocytes was performed in 107 patients with documented and advanced Chronic Illness and followed for a mean period of 13.2 months.

At the time of primary evaluation and treatment, the absolute value of natural killer cell activity for these patients was significantly lower than the normal range. Hence, the association of chronic illness with the syndrome of low natural killer cell activity.

Objective

These patients were known to be using a variety of nutritional supplements without recording significant increases in NK cell activity. The refined lacteal complex Ai/E¹⁰® was added to the patient's protocols to determine the viability of Ai/E¹⁰® in assisting the elevation of the curve of NK cell activation into normal ranges.

Charts of 107 patients with chronic illness and a mean NK cell activity of 18 Lytic units were studied to determine their NK cell function response after being treated with a medical regimen that included 200 to 800 mgs of Ai/E¹⁰® q.d.

Findings

NK cell activity measured in Lytic units for the 107 patients in the study group rose significantly ($p < .001$) to a mean of 246 Lytic units placing them at the high end of the recognized range for people in a healthy population. Age and months of treatment, which varied among the study group, did not present a linear relationship and accordingly suggests the NK levels to be independent of these factors.

Conclusion

Ai/E¹⁰® has been shown to significantly ($p < .001$) help elevate NK cell activity in people suffering from chronic illness and demonstrates viability as a therapeutic in NK cell activation in the face of chronic disease.

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Background

An overview of the immune system

The marvelous arrays of deftly interacting cells that defend our body against invaders arise from a few precursor cells that first appear at about 9 weeks after conception. From that point on, the cells of the immune system go through a continuously repeated cycle of growth and development and become fully competent at around 6 months of age after our birth.

The parent cells of our immune system are referred to as stem cells. These are the cells upon which the immune system depends to both reproduce itself and gives rise to the many specialized lineage's that spring from it; the B cells, macrophages, natural killer (NK) cells, helper T cells, etc.

The cells of the immune system are not isolated in a single body space or arranged in the form of a single organ. Instead, the majority of them exist as potentially mobile entities unattached to other cells. This characteristic is crucial to their function. Every minute of every day, war is waged within our body. The combatants are too small to see. Some, like the infamous HIV virus, are so small that 230 million would fit on the period at the end of this sentence. Yet, they employ tactics that can vanquish the much larger cells upon which our immune system is based. Usually, we never even notice the battles within us.

We have evolved legions of defenders, specialized cells that silently destroy the unseen enemy. Sometimes these warriors mistake harmless invaders such as pollen for deadly foes and trigger an allergic response. Occasionally, some of our own cells begin the mutinous uncontrolled proliferation characteristic of cancer and manage to evade the surveillance of our body's defensive forces. For every successful penetration of our defenses, millions of attempts are repelled. We sleep securely at night trusting the invisible vigilantes of our immune system.

The science and practice of immunology can be traced back to 1721 to Lady Mary Wortley Montagu. She introduced England to a Turkish process of inoculation with unmodified smallpox virus in an attempt to stem the ravages of the normal course of the disease. Her techniques were quite crude and as many as her patients died as survived but those that survived were immune to the disease forever more.

Over the decades and centuries scores of doctors and researchers honed the art of immunology into a more and more refined science. Many of the wonderful blood tests that we have today and our new knowledge of immunology did not exist a scant 20 years ago. Information on the science of immunology doubles

approximately every 5 to 6 years. So we must remember that the wonderful ways that we have today to support and direct the immune system to help protect us and fight off illnesses is a mere foreshadowing of things to come in the (near) future

Our immune system is a miracle of evolution. There is interesting research to suggest that elements of our immune system were, at one time, actually independent organisms. They were incorporated into our body millions and millions of years ago as a type of symbiotic mutually beneficial relationship. Our immune system is not controlled by any central organ such as the relationship of our brain to our nervous system. Rather it has developed and functions as a kind of biological democracy where the individual members achieve their ends through an information network of biochemical substances called cytokines.

Many different variables in our environment and lifestyle can affect the efficiency of its function. Our immune system accounts for approximately 1% of our body's 100 trillion cells. These defender cells originally arise in our bone marrow and mature in other parts of our body, the thymus, spleen and lymph glands. The different lineage's which develop all share one common objective; to identify and destroy all substances, living or inert, that are recognized as foreign to our body. This includes cancer cells that challenge our immune system everyday for each and every one of us.

NK Cells

NK cells were discovered in the 1970's and constitute up to 15% of the total lymphocyte population in normal healthy subjects. They are capable of killing a broad range of tumor and virus infected cells. Depressed NK cell activity and depressed NK cell populations are associated with the development and rapid progression of cancer, hepatitis, AIDS, Chronic Fatigue Syndrome, various immunodeficiency syndromes, and certain autoimmune diseases. In my practice I almost exclusively work with people with severe and chronic diseases, diseases that are known to present abnormally low levels of NK cell function.

NK cells now appear to present the first line of defense against metastatic spread of tumors. In numerous studies, low NK cell populations were correlated with greater and more rapid spread of tumors with shorter host longevity and with greater morbidity.

The immune response

There are four critical phases to the immunological response and lifestyle issues and some dietary supplements can influence them.

During phase one, the offending invader is identified and recognized as being foreign to our body and then quickly consumed by hungry roving macrophages. You can think of macrophages as little PAC men that are found in all of the tissues in our body and circulating around in our blood

stream looking for their next free lunch. They seize upon this foreign agent, engulf it, eat it and release a series of cytokines that then trigger the 2nd phase of the immunological reaction.

In phase two, these biochemical substances then activate the helper T cells that have the job of coordinating the counterattack on a body-wide scale. The T cells then begin to multiply and release other cytokines that further stimulate more T cells, B cells, and natural killer cells. As the number of B cells increase, the helper T cells signal them to begin producing antibodies, thus, bringing us to the 3rd stage of the immunological response.

In the third stage, the antibodies are circulating around in our blood stream and are attaching to the foreign virus or bacteria causing them to be more quickly engulfed by macrophages or killed by natural killer cells.

The fourth stage of the immunological response begins when the circulating antibodies no longer have a target and the suppresser T cells call a truce to the immunological reaction bringing about a new balance, or homeostasis, in our system. Special cells of the immune system remember what had transpired so that if again attacked by the same organism our body could respond much faster. These cells also release special little molecules called transfer factor to help keep the pump primed, so to speak.

Thus, what may have been a 10-day bout from our first exposure to that particular virus, in the future may be a cold that lasts no more than 24-72 hours.

Immune-modulation

Immune-modulation is emerging as a new and key step in supporting immune function.

Lifestyle

Lifestyle issues that will affect the functioning of our immune system include exposure to *toxins* (heavy metals, petrochemicals, radiation, etc.) and *dietary and nutritional deficiencies* that can rob the immune system of the biochemical foundation that it relies upon in order to function normally. Another major lifestyle issue relative to immune function is *stress*.

The importance of prevention

With any health problem it is much more prudent and efficient to prevent disease by maintaining a high level of immune function. Research has shown that low NK cell activity is present nearly all illness. A daily dietary regimen that includes **Ai/E¹⁰®** has been shown to significantly help maintain high NK cell activity and thereby dramatically increase the ability of the immune system to maintain a

healthy condition.

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Summary Study Group Information/Statistics

Background:

NK cell activity (Lytic Units) in
a healthy population 150-225

NK cell activity (Lytic Units) in
the U.S. population 20-50

Study Group size and gender:

107 participants
59 females
48 males

Mean age 53 years
Youngest 17 years
Oldest 83 years

Presenting disease as a percentage of the Total Study Group:

Cancer 50%
Chronic Fatigue Syndrome 30%
Others 20%

Including Lupus, Allergies, Fibromyalgia, Blood Disorders, Chronic Infections, Recurrent Infections, Autoimmune Diseases, and Cervical Dysplasia/Metaplasia.

All Study Group participants recorded significantly higher NK cell activity.

Mean *initial* NK cell activity 18 Lytic Units

Mean *final* NK cell activity 246 Lytic Units

Average <i>monthly increase</i> in NK cell activity by participants	17 Lytic Units
Average <i>percentage of improvement</i>	1401%
Treatment period:	
Total participant treatment time	1422 months
Average participant treatment time	13 months
Number of capsules used by participants	2-8 per day
Ai/E¹⁰ serving size	100 mg

THE USE OF Ai/E10 IN CONJUNCTION WITH A HOLISTIC MODEL FOR NK CELL STIMULATION IN CHRONIC ILLNESS

Exhibit A

Patient Statistics and Outcome Discussion

Patient Number	Patient		Sqs	Condition	Months			Initial NK			Last NK			Comments On Outcome
	Age	Dev			Treated	Dev	Sqs	Level	Dev	Sqs	Level	Dev	Sqs	
1	48	5	20.72	CFS, Psoriasis	20	6.7	45.1	21	3	11.8	780	534	285106.1	Back to work, skin improving, high energy
2	50	3	6.51	Colon Polyps	26	12.7	161.7	1	(17)	274.3	174	(72)	5190.7	Cured
3	48	5	20.72	Adenocarcinoma	22	8.7	76.0	1	(17)	274.3	1030	784	614582.7	Remission
4	77	(24)	597.7	Prostate Cancer	21	7.7	59.5	7	(11)	111.5	657	411	168882.6	Remission
5	49	4	12.61	Hep C	27	13.7	188.1	3	(15)	212.0	390	144	20722.5	Remission
6	36	17	273.9	CFS	22	8.7	76.0	12	(6)	30.9	380	134	17943.5	Feeling well and back to work
7	39	14	183.6	CFS, EBV, Staph	27	13.7	188.1	8	(10)	91.4	365	119	14149.9	Healthy
8	62	(9)	89.28	Prostate Cancer	22	8.7	76.0	3	(15)	212.0	90	(156)	24350.6	Remission
9	66	(13)	180.9	Carcinoma	10	-3.3	10.8	4	(14)	183.9	830	584	341001.4	Remission
10	57	(4)	19.79	Carcinoma	11	-2.3	5.2	9	(9)	73.3	415	169	28545.2	Remission
11	42	11	111.3	Ovarian Cancer	15	1.7	2.9	23	5	29.6	148	(98)	9613.2	Remission
12	78	(25)	647.6	Prostate Cancer	3	-10.3	105.8	3	(15)	212.0	419	173	29912.8	Remission
13	50	3	6.51	AIDS	36	22.7	516.0	1	(17)	274.3	330	84	7048.2	Opportunistic infections ceased
14	61	(8)	71.38	CFS	25	11.7	137.2	0	(18)	308.4	204	(42)	1767.9	Feeling good, near recovery
15	62	(9)	89.28	Colon Cancer	17	3.7	13.8	45	27	752.9	466	220	48379.4	Stabilized
16	43	10	91.23	Severe Allergies	30	16.7	279.4	22	4	19.7	315	69	4754.6	Resolved
17	56	(3)	11.89	CFS	23	9.7	94.4	20	2	5.9	225	(21)	443.0	Resolved
18	44	9	73.13	CFS & others	24	10.7	114.8	1	(17)	274.3	273	27	726.5	Resolved
19	56	(3)	11.89	CFS	16	2.7	7.4	26	8	71.2	399	153	23394.7	Resolved
20	48	5	20.72	CFS	14	0.7	0.5	4	(14)	183.9	172	(74)	5482.9	Resolved
21	41	12	133.4	Bladder Cancer	13	-0.3	0.1	2	(16)	242.1	148	(98)	9613.2	Resolved
22	76	(23)	549.8	Prostate Cancer	19	5.7	32.7	3	(15)	212.0	92	(154)	23730.4	Remission
23	50	3	6.51	HSV-II	18	4.7	22.2	6	(12)	133.7	282	36	1292.6	Remission
24	47	6	30.82	CFS, colon polyps	20	6.7	45.1	3	(15)	212.0	189	(57)	3254.3	Much improved
25	49	4	12.61	CFS	23	9.7	94.4	1	(17)	274.3	266	20	398.1	Steadily improving
26	46	7	42.92	Ductal Carcinoma	13	-0.3	0.1	11	(7)	43.0	179	(67)	4495.3	Remission
27	60	(7)	55.48	CMV	38	24.7	610.8	4	(14)	183.9	297	51	2596.2	Cured
28	72	(19)	378.2	Lymphocytic Leukemia	24	10.7	114.8	1	(17)	274.3	89	(157)	24663.7	Stablized and improving
29	36	17	273.9	CFIDS, HHV-6	59	45.7	2089.9	18	0	0.2	315	69	4754.6	Resolved
30	37	16	241.8	Autoimmune Dysfunction	29	15.7	247.0	1	(17)	274.3	623	377	142093.8	Normal
31	41	12	133.4	Myelodysplasia	9	-4.3	18.4	8	(10)	91.4	349	103	10599.4	Normalized
32	82	(29)	867.2	Lymphoma (Non Hodgkin)	16	2.7	7.4	26	8	71.2	634	388	150507.7	Stable and progressing
33	58	(5)	29.69	Lymphocytic Leukemia	39	25.7	661.3	0	(18)	308.4	730	484	234210.8	Stable and dormant
34	38	15	211.7	Chronic infection	31	17.7	313.8	4	(14)	183.9	368	122	14872.6	Normalized
35	36	17	273.9	Colitis, Allergy	36	22.7	516.0	38	20	417.8	550	304	92387.6	Normalized
36	55	(2)	5.996	B-cell Leukemia	14	0.7	0.5	5	(13)	157.8	210	(36)	1299.4	Stable and improving
37	66	(13)	180.9	Colitis	16	2.7	7.4	17	(1)	0.3	125	(121)	14652.3	Much improved.
38	65	(12)	155	Prostate Cancer	13	-0.3	0.1	21	3	11.8	367	121	14629.7	Stable, good prognosis
39	33	20	382.3	EBV	29	15.7	247.0	1	(17)	274.3	295	49	2396.4	Full remission
40	41	12	133.4	Thyroiditis	20	6.7	45.1	2	(16)	242.1	230	(16)	257.5	Much improved and improving
41	53	(0)	0.201	CFS	17	3.7	13.8	16	(2)	2.4	345	99	9791.7	Improving rapidly
42	53	(0)	0.201	Myelodysplasia	10	-3.3	10.8	5	(13)	157.8	249	3	8.7	Improving rapidly
43	64	(11)	131.1	Prostate Cancer	19	5.7	32.7	14	(4)	12.7	845	599	358745.0	Asymtomatic
44	65	(12)	155	CFIDS, Allergies	23	9.7	94.4	14	(4)	12.7	398	152	23089.8	Feeling good and back to work

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Exhibit A

Patient Statistics and Outcome Discussion

Patient Number	Patient Age	Dev	Sqs	Condition	Months			Initial NK			Last NK			Comments On Outcome
					Treated	Dev	Sqs	Level	Dev	Sqs	Level	Dev	Sqs	
45	30	23	508.6	Basal Cell Carcinoma	29	15.7	247.0	51	33	1118.2	140	(106)	11245.9	Resolved and remission
46	53	(0)	0.201	Breast Cancer	22	8.7	76.0	105	87	7645.6	845	599	358745.0	Disease free
47	76	(23)	549.8	Lung Cancer	9	-4.3	18.4	25	7	55.3	88	(158)	24978.8	Stabilized and resolving
48	55	(2)	5.996	Colon Cancer	12	-1.3	1.7	40	22	503.5	72	(174)	30292.3	Obstruction resolved and asymptomatic
49	59	(6)	41.58	CFS	5	-8.3	68.6	11	(7)	43.0	21	(225)	50646.0	Returned to active life, feeling good
50	58	(5)	29.69	Breast Cancer	8	-5.3	27.9	11	(7)	43.0	31	(215)	46245.1	Recovering well.
51	65	(12)	155	Prostate Cancer	1	-12.3	150.9	2	(16)	242.1	38	(208)	43283.4	Full remission
52	56	(3)	11.89	CFS	11	-2.3	5.2	20	2	5.9	127	(119)	14172.1	Energetic and returned to active life
53	62	(9)	89.28	Colon Cancer	1	-12.3	150.9	45	27	752.9	219	(27)	731.5	Resolved
54	48	5	20.72	CFS	6	-7.3	53.1	12	(6)	30.9	101	(145)	21038.6	Recovered and feels like "A new woman"
55	47	6	30.82	Cervical Cancer	4	-9.3	86.2	1	(17)	274.3	46	(200)	40018.7	Cancer, Herpes & genital warts in remission
56	49	4	12.61	Colon Cancer	8	-5.3	27.9	3	(15)	212.0	49	(197)	38827.4	Remission
57	51	2	2.407	CFS	19	5.7	32.7	21	3	11.8	780	534	285106.1	Returned to active life
58	36	17	273.9	CFS, Lupus	16	2.7	7.4	7	(11)	111.5	28	(218)	47544.4	Remission, back to graduate school
59	40	13	157.5	CFS	13	-0.3	0.1	42	24	597.3	185	(61)	3726.7	Recovered
60	48	5	20.72	Ovarian Cancer	12	-1.3	1.7	79	61	3774.8	399	153	23394.7	Resolved
61	40	13	157.5	CFS	13	-0.3	0.1	17	(1)	0.3	56	(190)	36117.8	Returned to active life
62	43	10	91.23	Bladder Cancer	15	1.7	2.9	2	(16)	242.1	164	(82)	6731.7	Remission
63	67	(14)	208.8	Prostate Cancer	2	-11.3	127.4	5	(13)	157.8	103	(143)	20462.4	Remission
64	66	(13)	180.9	Prostate Cancer	11	-2.3	5.2	14	(4)	12.7	608	362	131010.2	Remission, back to active life
65	50	3	6.51	Parotid Cancer	5	-8.3	68.6	29	11	130.9	142	(104)	10825.7	Remission, back to active life
66	79	(26)	699.5	Prostate Cancer	20	6.7	45.1	7	(11)	111.5	499	253	63985.4	Remission
67	54	(1)	2.098	Breast Cancer	9	-4.3	18.4	47	29	866.7	436	190	36082.2	Remission
68	64	(11)	131.1	CFS	3	-10.3	105.8	0	(18)	308.4	69	(177)	31345.5	"Spunky again"
69	56	(3)	11.89	CFS	13	-0.3	0.1	2	(16)	242.1	41	(205)	42044.2	Full recovery
70	49	4	12.61	Lupus	9	-4.3	18.4	8	(10)	91.4	38	(208)	43283.4	Remission
71	63	(10)	109.2	Leukemia	5	-8.3	68.6	117	99	9888.2	376	130	16887.9	Improving significantly
72	47	6	30.82	Breast Cancer	5	-8.3	68.6	33	15	238.4	689	443	196207.6	Avoided surgery, back to normal life
73	70	(17)	304.5	COPD, CFS	15	1.7	2.9	1	(17)	274.3	73	(173)	29945.2	CFS resolved, back to spry grandma.
74	53	(0)	0.201	Breast Cancer, Thyroiditis	10	-3.3	10.8	132	114	13096.3	255	9	80.2	Thyroid corrected, cancer remission
75	50	3	6.51	EBV	8	-5.3	27.9	15	(3)	6.6	28	(218)	47544.4	Doing well, feels alive again
76	44	9	73.13	Ovarian Cancer	3	-10.3	105.8	23	5	29.6	70	(176)	30992.5	Remission
77	39	14	183.6	EBV, Lupus	7	-6.3	39.5	19	1	2.1	66	(180)	32416.8	EBV remission, Lupus has disappeared
78	52	1	0.304	Prostate Cancer	2	-11.3	127.4	5	(13)	157.8	39	(207)	42868.3	Full remission
79	84	(31)	989	Lymphoma	4	-9.3	86.2	26	8	71.2	69	(177)	31345.5	Full recovery
80	49	4	12.61	Appendix Adenocarcinoma	10	-3.3	10.8	18	0	0.2	56	(190)	36117.8	Full remission
81	50	3	6.51	CFS	3	-10.3	105.8	4	(14)	183.9	44	(202)	40822.9	Feeling great again
82	77	(24)	597.7	Cancer	8	-5.3	27.9	82	64	4152.4	348	102	10394.5	Remission
83	55	(2)	5.996	CFS	5	-8.3	68.6	18	0	0.2	50	(196)	38434.3	Resolved, returned to career
84	21	32	995.5	EBV, Severe Herpes Stoma	14	0.7	0.5	5	(13)	157.8	32	(214)	45816.0	Resolved
85	49	4	12.61	Leukemia	0.5	-12.8	163.5	2	(16)	242.1	11	(235)	55247.0	Remission
86	57	(4)	19.79	CFS	8	-5.3	27.9	13	(5)	20.8	40	(206)	42455.3	Really well, full remission
87	52	1	0.304	CFS	5	-8.3	68.6	2	(16)	242.1	22	(224)	50196.9	Improving steadily
88	66	(13)	180.9	Renal Carcinoma	7	-6.3	39.5	3	(15)	212.0	11	(235)	55247.0	Remission
89	55	(2)	5.996	Lupus	13	-0.3	0.1	1	(17)	274.3	15	(231)	53382.6	Recovering well, slowly resolving

THE USE OF Ai/E10 IN CONJUNCTION WITH A HOLISTIC MODEL FOR NK CELL STIMULATION IN CHRONIC ILLNESS

Exhibit A

Patient Statistics and Outcome Discussion

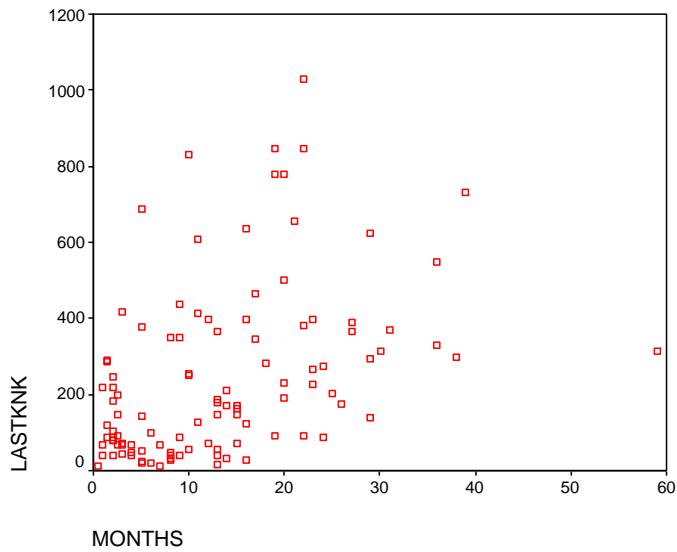
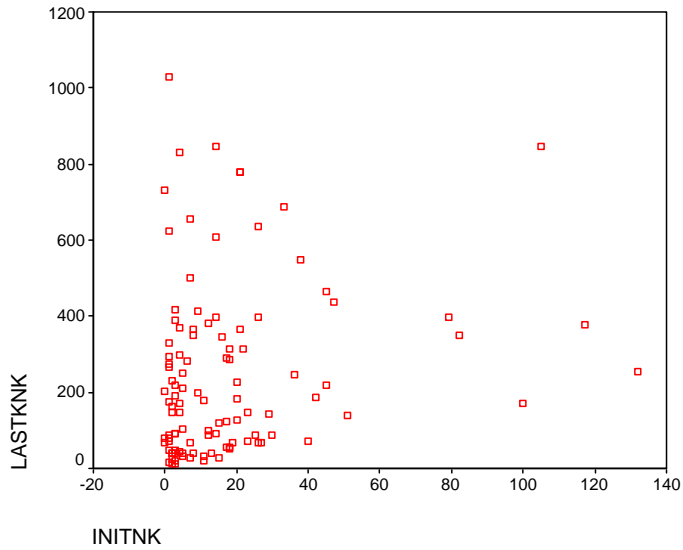
Patient Number	Patient		Sqs	Condition	Months			Initial NK			Last NK			Comments On Outcome
	Age	Dev			Treated	Dev	Sqs	Level	Dev	Sqs	Level	Dev	Sqs	
90	78	(25)	647.6	Prostate Cancer	6	-7.3	53.1	3	(15)	212.0	19	(227)	51550.2	Heavy chemo slowed healing, now in remission
91	40	13	157.5	CFS	15	1.7	2.9	100	82	6796.2	169	(77)	5936.2	Full recovery
92	48	5	20.72	Breast Cancer	4	-9.3	86.2	3	(15)	212.0	38	(208)	43283.4	Remission
93	31	22	464.5	CFS	1.5	-11.8	138.9	12	(6)	30.9	86	(160)	25615.0	Full remission
94	65	(12)	155	Prostate Cancer	1.5	-11.8	138.9	18	0	0.2	287	41	1677.2	Full remission
95	17	36	1264	Acute Mono	2	-11.3	127.4	0	(18)	308.4	79	(167)	27904.6	Full recovery very fast
96	46	7	42.92	Ovarian Cancer	1.5	-11.8	138.9	15	(3)	6.6	118	(128)	16396.0	Full remission
97	38	15	211.7	Breast Cancer	2	-11.3	127.4	3	(15)	212.0	218	(28)	786.6	No sign of disease
98	53	(0)	0.201	Lung Cancer	2.5	-10.8	116.3	9	(9)	73.3	198	(48)	2308.5	Improving significantly
99	68	(15)	238.7	Colon Cancer	2	-11.3	127.4	36	18	340.0	246	(0)	0.0	Fully recovered
100	47	6	30.82	Cervical Cancer	2	-11.3	127.4	20	2	5.9	182	(64)	4102.0	Remission
101	31	22	464.5	CFS	2.5	-10.8	116.3	7	(11)	111.5	68	(178)	31700.6	Remission in four months
102	29	24	554.7	CFS	2.5	-10.8	116.3	14	(4)	12.7	92	(154)	23730.4	After 8 years illness, four months 90% of old self
103	62	(9)	89.28	Lymphoma	1	-12.3	150.9	27	9	89.1	68	(178)	31700.6	Tumor decreasing
104	73	(20)	418.1	Myeloma	2.5	-10.8	116.3	4	(14)	183.9	148	(98)	9613.2	Fully recovered
105	26	27	705	CFS	2	-11.3	127.4	30	12	154.7	87	(159)	25295.9	Full remission
106	43	10	91.23	Breast Cancer	1.5	-11.8	138.9	17	(1)	0.3	289	43	1845.0	Improving very nicely
107	58	(5)	29.69	Myelofibrosis	2	-11.3	127.4	1	(17)	274.3	79	(167)	27904.6	Making great progress
5623			19460		1421.5		11860.6	1,879		63,262	26,327		5,445,977	
Means			181.9		13.3		110.8	18		591	246		50,897	
Standard Deviation			13.5				10.5			24			226	

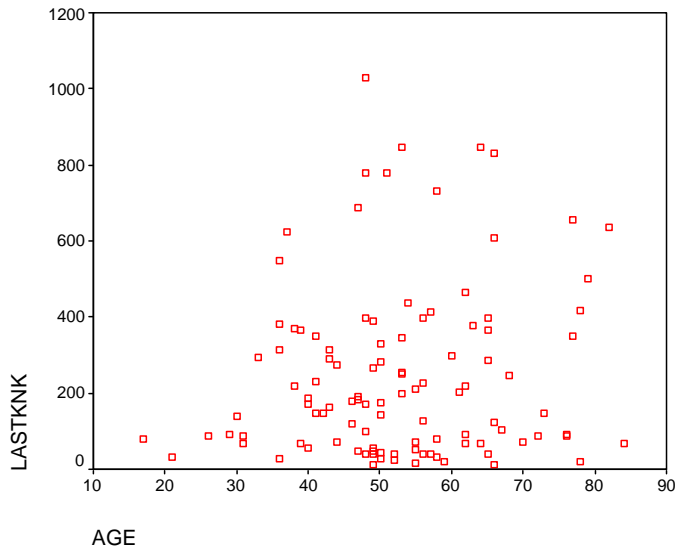
Mean Age	53 Years
Standard Deviation of Age	13
Mean months in treatment	13 Months
Standard Deviation of Treatment Months	11
Mean NK cell level at start	18 Lytic Units
Standard Deviation of NK cell level at start	24
Mean NK cell level last tested	246 Lytic Units
Standard Deviation of NK cell level at end	226
Average Monthly Increase in NK Cell activity	17 Lytic Units
Average Percentage Improvement	1401%

Statistical Evaluation of Study Data

Section 1.

These three charts show the last NK level (y axis) against the initial NK level, months of treatment, and the subject's age respectively (x axis). None of these appear to show a linear relationship between the two variables – last NK level seems to be independent of these three conditions.





Section 2.

This section shows the result of a simple t-test statistic that looks at the difference between the initial and last NK levels, computes a test statistic, and provides the level of significance (your p value). $p < .001$

The first table gives you the mean and standard deviation for the two variables. The second table gives the difference between the two means, the standard deviation and standard error of the mean, the 95% confidence interval (the range of sample means), the t-statistic, degrees of freedom (df), and the significance (your p value). As you know, the difference between initial and last NK is substantial, and the test shows that there is less than one chance in 100 of the difference being due to chance.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	INITNK	17.56	107	24.43	2.36
	LASTNK	246.05	107	226.67	21.91

Paired Samples Test

		Paired Differences							
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	INITNK - LASTNK	-228.49	223.23	21.58	-271.27	-185.70	-10.588	106	.000