

Holistic Prophylactic Host Factors for Cancer Prevention Program

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Abstract

Background: To date, cancer chemoprevention in separate organs has been reported. In this study, chemo-preventive drugs and knowledge for preventing cancer in all organs were summarized and this methods for preventing recurrence in the host side factors were evaluated. There have been several reports on the relationship between Vitamins and cancer, including those reported by Muto [1-3] about the relationship between Vitamin A and cancer as well as correlation Vitamin D and cancer reported from USA, and another reported by NCI(USA) about the association between high dose Vitamin C and cancer. It has been elucidated that cancer easily forms in low calcium conditions. Here, I reported the relationship between cyclic AMP and cancer and show that white blood cell counts correlate with immunity. Because cancer proliferate by using glutamine, a combination of Dietary Energy Restriction (DER) with restricted glutamine and 5% animal protein consumption and seven factors was devised as a method to prevent cancer with holistic prophylactic program.

Materials and methods: A combination of seven factors, DER with supplementation of sufficient concentrations of Vitamin A, C, D and calcium, fasting once weekly by consuming only vegetable juice to improve low cyclic AMP concentrations, and intradermal inoculation of BCG vaccine as a measure against low white blood cell count, was comprehensively prescribed. Five patients who had undergone surgery for recurrent cervical cancer, vascular granulomatosis with polyangiitis, advanced lung cancer, breast cancer and postoperative rectal cancer were included in this study. But we have failed on the patient with pancreatic cancer patient. Assessments were performed using Tumor Marker Combination Assay (TMCA). The primary outcomes included improvements in the seven factors resulting from the treatment. Although differentiation inducing treatment was basic therapy, hyperthermia treatment was not administered in this time. In case of inflammatory changes, minomycin, which has antioxidant activity, was added in small amounts, and a special herbal medicine (SA) was used given in case of metastasis.

Result: All five patients were difficult to treat with conventional cancer treatments, however, by applying the knowledge of seven host factors and affiliated antioxidant and differentiation- inducing treatments, the conditions of all five patients improved except one patient.

Conclusion: If improvement measures can be implemented for seven host factors, including DER, improvement in low concentrations of Vitamin A, C, D, Calcium, cyclic AMP and white blood cell counts, the recurrence of cancer can be prevented, and these seven host factors can serve as indicators for cancer prediction and prevention.

Keywords: Vitamin A shortage; Vitamin C shortage; Vitamin D shortage; Low cyclic AMP; Low WBC, Low calcium; 7 prophylactic host factors for cancer prevention program

Introduction

To date, there have been limited reports on chemoprevention by organs. However, cancer can develop anywhere in the body, hence, the prevention of cancer by organs has little significance. In light of this clinical problem, we developed a holistic prophylactic cancer prevention programs to deal with all organ cancers. Incidence of cancer increases with excessive dietary glutamine; hence, cancer can be fundamentally prevented with Dietary Energy Restriction (DER). In order to limit the dietary intake of glutamine and maintain a diet low in AGEs, we gave instruction to discontinue cooking in a microwave. In addition, animal protein was limited to 5%.

The above data are cited from Seyfried T [4] (Figure 1). Because a combination of glutamine and sugar promotes strong cancer growth, it is important to follow a diet with low glutamine content. Therefore, DER is the first measure [5-7]. As a second measure, there was a great deal of data on the relationship between Vitamin A and cancer as reported by Muto

[1-3]. Prescribing Vitamin A or maintaining its high concentration through intramuscular injections is considered advisable because not only do cancer patients have a decreased intake of Vitamin A and decreased concentration of Vitamin A-binding protein but these cancerous tissue also destroy Vitamin A. It is also important to know that Vitamin A has differentiation inducing effects. The

third measure is the relationship between Vitamin C and cancer. NCI(USA) has reported that high concentrations of Vitamin C are effective in preventing all cancers [8,9]. The human body cannot biosynthesize Vitamin C; therefore, replenishment of a sufficient amount of high dose Vitamin C (Vitamin C in urine should also presented (Fujifilm Wako Pure Drug KK) is required.

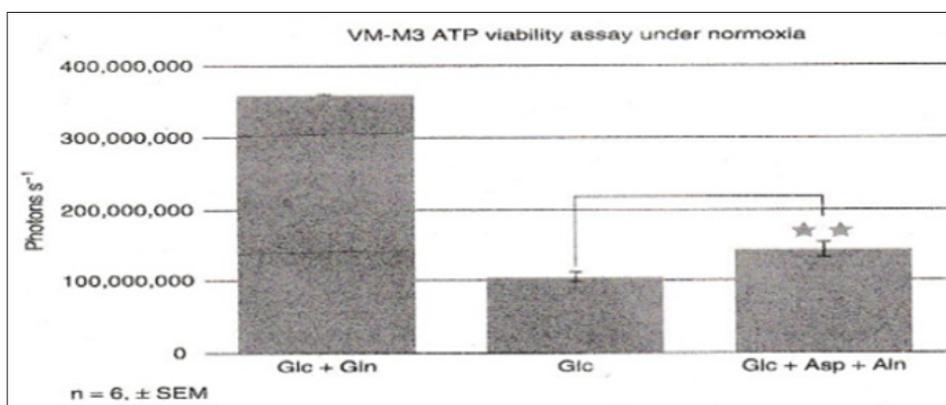


Figure 1:

Patient was advised to maintain urinary concentration of Vitamin C in every time over 60mg/dl. The fourth measure is the relationship between Vitamin D and cancer. Vitamin D has been associated with the development of cancer in these days [10-12]. For the fifth measure, we confirmed that low calcium conditions in vitro increase the tendency for cancer development; therefore, adequate amount of Vitamin D and calcium supplementations are considered necessary. For the sixth measure, cyclic AMP is strongly correlated with second messengers of hormones and immunocompetence [13]. Hsie AW [14] from the University of Colorado reported that an addition of only 1mM of cyclic AMP induced differentiation of cultured ovarian cancer cells to normal fibroblasts in 5h. In other words, cyclic AMP is strongly inducer of differentiation. Cyclic AMP in the blood can be increased by consuming vegetable juice once a week during fasting period. If an improvement is not observed, differentiation-inducing treatment is given as previously reported [15]. For the seventh measure, white blood cell counts have received little attention. Because white blood cell counts are highly correlated with immunocompetence, measures such as BCG vaccination should be carefully considered in the patients with low white blood cell counts. In this time, we expressed the correction of seven measures as seven host factors. Taken together, these seven factors were applied in the holistic prophylactic prevention program to prevent cancer recurrence in five pave patients with cancers which were difficult to treat using traditional cancer care.

Materials and Patients

For Vitamin A, Chocola A was used (10,000 units) and 1-3 tablets/day (Eisai KK. Tokyo) were administered. For Vitamin D, 1 tablet/day (0.25 μ g) (Kyowa Yakuin Kogyo KK. Osaka) was administered.

- 1st case: The 32-year-old female patient had cervical cancer that relapsed within 3 months after surgery. She visited our institution after being advised to undergo an emergency hysterectomy, which in itself was a surprise to the patient.
- 2nd case: This was a 73-year-old female patient with eosinophilic granulomatosis with polyangiitis. The patient was treated with steroids at first and was told that no further treatments were available; hence the patient subsequently visited our institution.
- 3rd case: The 76-year-old male patient had lung cancer. The patient was told that chemotherapeutic treatment would be given after the patient's surgery; however, the patient was not inclined to receive a chemotherapeutic treatment. Hence, he visited our institution immediately after the surgery. Preoperative CT image are shown below (Figure 2). CT image revealed right pulmonary resection alone would be unlikely adequately control the lung cancer.



Figure 2:

d) 4th case: This breast cancer patient was advised to undergo a surgery by a surgeon; however, the patient did not want to undergo surgery and hence, visited our institution.

e) 5th case: This patient did not want to experience a postoperative recurrence of rectal carcinoma and, therefore, visited our institution.

Treatment courses were evaluated by TMCA as required. Basically, a combination of the aforementioned seven host factors were utilized, however, special herbal medicine (SA) (1.5g/day; IMHC clinic, Chiba) [16,17] was additionally prescribed if there was a concern regarding relapse or metastasis. This herbal medicine characteristically suppresses the oxygen respiration of cancer cells, prevent metastasis, and cancer cell proliferation. For references, the following data were included (Figure 3).

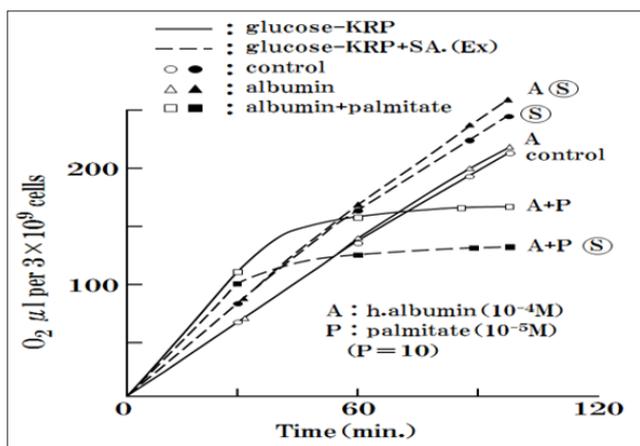


Figure 3:

Ⓢ is a herbal medicine (SA), and combining it with Albumin (A) and Palmitic Acid (P) has been proven to stop oxygen respiration in cancer cells (Ehrlich’s ascites tumor cells) and rapidly suppress proliferation. In addition, if inflammatory changes were observed, Minomycin (50mg) with antioxidant effects was utilized in small doses. For the differentiation-inducing treatment used in this study, Vitamin A (5x10⁴ units), high-dose Vitamin C(20-70g), Solcoseryl (2A) (SS-094) [18] and cyclic AMP (Bucladesine Sodium 300mg/1day) [15] were administered without hyperthermia therapy.

a) **Case 1:** This 32-year-old female patient had undergone surgery for cervical cancer. The patient experienced cancer recurrence within 3 months and was advised to undergo another surgery. However, the patient did not trust the recommendation and hence, visited our institution. The patient’s data were as follows:

Table 2.

	2018				2019		
	October 18	November 12	November 26	December 27	January 24	March 07	April 11
Alb (%)	57.8	55.9	58.9	56.6	56.8	59.1	57.2
α1-g1 (%)	3.3	3.7	2.6	2.6	2.6	2.2	2.2
SLX	42	36	36	43	35	40	42

Tumor Marker Screening (TMCA) [19,20] showed SCC of 1.0ng/ml, however, SLX was 48U/ml and thymidine kinase was 11.1U/ml, which were slightly higher than normal range, Vitamin D was 126ng/ml and lower, and Vitamin A was 136ng/ml and lower. The number of T cell was 1092, stimulation index was even lower at 50.4 and number of NK cells was also too low at 17%. Ascribed to these abnormally low values, herpes zoster viral infection was confirmed. Treatment: 1 tablet of Chocola A at 10,000 units was administered three times daily, and 1 tablet of Vitamin D was administered. Herpes zoster was treated with 1g of high-dose Vitamin C every 3h at least 6 times a day. The treatment course was as follows. Based on the treatment course, there was a gradual improvement in the hematological parameters and cancer recurrences were suppressed. Although there was gradual improvement in the concentration of Vitamin A because it has differentiating activity, the concentration of Vitamin D did not improve. Maintaining the concentration of Vitamin A (target concentration of 400ng/ml) and Vitamin D (target concentration over 25ng/ml) in the blood is considered to be important (Table 1).

Table 1.

	January 17	March 07	April 18
Ferritin (mg/ml)	6	7	7
Fe(μg/dL)	41	67	22
SLX(U/ml)	48	37	37
Thymidine kinase(U/l)	11.1	7.5	6.4
Vitamin A (ng/ml)	136	173	186
Vitamin D(ng/ml)	16.2		12.6
Herpes zoster virus	(-)	32	53
CRP (mg/dL)	0.03	0.04	0.03
TMCA classification	TS(V)G ₁	TS(V)G ₀	G ₀

b) **Case 2:** This 75-year-old female patient was pathologically diagnosed with eosinophilic granulomatosis with polyangiitis. Because the patient’s condition was considerably severe, not only Vitamin A, Vitamin C, and Vitamin D, but also herbal medicine (SA) was prescribed. Because the urinary concentration of BMG rapidly increased for the first time, the involvement of inflammation was considered. From November 26, minomycin at 50mg once daily was given and after initiation of re-differentiation inducing treatment (combination of Vitamin A and high dose Vitamin C at 20g, Solcoseryl (2A) and 300mg of cAMP), the course was uneventful and getting better (Table 2).

BMG	483	582	3500	747	717	1078	141
CRP	0.33	0.5	0.55	0.38	0.34	0.4	0.44
Vit A(ng/ml)	134	178	134	178	191	268	255
cAMP	17			27.4			
Vit D	23.9						
BNP	318					97	131.7
TMCA risk	G ₂	G ₂	G ₁	G ₀	G ₀	G ₀	G ₀

c) Case 3: This 76-year-old male with lung cancer visited our institution after refusing to undergo postoperative chemotherapy. The prescribed treatment course included herbal medicine (SA: 1.5g/day), Vitamin A (30,000 units/day), Vitamin D (0.25µg/day) and high dose Vitamin C (8g/day). Due to the disease severity, wherein decreased concentration of albumin was observed on September 6 that deteriorated to strong albumin depletion on

October 23, five vials of albumin (albuminate, 25%, 50ml: CSL Behring) were administered to improve protein fractionation. From October 8, 1 tablet of minomycin at 50mg/day was administered to reduce inflammation. The hematological parameters normalized and an improvement was observed after maintenance of relatively high concentrations of Vitamin A, D and cAMP (Table 3).

Table 3.

	2018					2019	
	September 06	October 08	October 23	November 30	December 20	January 10	March 16
Alb (%)	53	60.1	50	63.6	62.3	61	65.1
α1-gI (%)	4.8	3.8	6.7	2.4	2.5	2.6	2.5
CEA (ng/ml)	5.4	6.2	8.6	4.1	4.2	5.1	4.7
NSE (ng/ml)	15.1	17.9	15.4	12.6	18.7	17.7	15.5
Thymidine kinase	11.6	15.4	5.3	4.6			7.1
Vit A (ng/ml)	147	255	327	349	306	294	294
Vit D	14.5			20.6	26.1	26.6	26.6
cAMP	22				19.8	20.5	20.5
CRP (mg/dL)	0.22			0.03	0.03	0.03	0.03
TMCA risk	TS(V)(G ₂)		TSV(G ₃)	TS(V)(G ₁)	TS(V)(G ₁)	TS(V)(G ₁)	TS(IV)(G ₀)

d) Case 4: This was a 32-year-old patient with early stage breast cancer. She took Ti Chi, but we prescribed her Vitamin A (30000 units/day) and high dose Vitamin C (8g/day) and Vitamin D (0.25µg/day). According to the increase of Vitamin A, Vitamin D

and cAMP, TMCA risk assessment is getting better. Concentrations of α1-gI fraction, CA15-3, serum iron, Vitamin A, D and cAMP all of them are gradually improved. The breast tumor is now no palpable. However, FT/Fe did not improve (Table 4).

Table 4.

	2019		
	January 28	April 15	March 02
Alb (%)	63.9	67.4	62.3
α 1-gl (%)	2.9	2.4	2.6
CA15-3(U/ml)	33	15	18
Ferritin (FT)(ng/ml)	4	8	5
Serum iron (Fe: μ g/ml)	27	50	74
FT/Fe	0.15	0.16	0.07
cAMP(pmol)	12.1	12.5	16.9
Vitamin D(ng/ml)	13.5	14.6	18.5
Vitamin A(IU/dL)	111	113	150
CRP (mg/ml)	0.03	0.03	0.03
WBC	4200		
TMCA risk assessment	TS(V)G ₁	TS(IV)G ₀	TS(IV)G ₀

e) Case 5: After surgery for rectal cancer, the risk level of the patient was TS(V): G₁. The patient father previously died from recurring rectal cancer, hence, the patient wanted to prevent cancer recurrence. (?): the possibility of different examination method was carried out? Because the concentration of Vitamin A increased, improvement in the concentrations of thymidine kinase, hyaluronic acid was observed. Vitamin D concentration is stubbornly low level, but the cancer risk classification was determined to continue improving (Table 5).

Table 5.

	2018		2019	
	April 26	October 25	February 21	March 18
Alb (%)				
α 1-gl (%)	58.5	63.4		61.8
CA19-9 (U/ml)	3.5	2.8	2.5	2.5
CEA (ng/ml)	25.6	(?)	72	64
Thymidine kinase(U/ml)	1.3	1.7	1.6	1.7
Hyaluronic acid	12.8	7.2	3.1	
Vitamin D(ng/ml)	70.8	56	54.2	
Vitamin A(IU/ml)	19	18.8		19
Vitamin A(IU/ml)	150	146	211	232
TMCA risk assessment	TS(V)G ₁	TS(IV)G ₀	TS(IV)G ₀	TS(IV)G ₀

f) Case 6: This was a 70-year-old male patient who suffered from metastasis to liver from pancreatic cancer after pancreatic cancer surgery. After pancreatic surgery, cancer was metastasized to the liver and he presented in my clinic. At first of his treatment, Vitamin A and D are getting to increase, but on the day 13 May, the data became weak-kneed and jaundice was appeared and PTCO was set up so as to sweep out bile acid into intestinal canal. The most important fact was weak-kneed after the reduction of Vitamin A and D (Table 6).

Table 6.

	2019					
	January 31	February 21	March 25	April 25	May 15	June 13
CA19-9	271	337	440	1038	2701	17458
Span-1	83.1	100	160	380	890	3200
Hialuronic A	67.3	73.3	141.8	127.6	252.3	270.5
Alb (%)	67.7	66.3	65.2	66.5	63.2	59.2
α 1-gl	2.7	2.6	3.4	2.5	4.2	4.8
Vit A	16.6	169	185	224	173	176
Vit D	11.8		15.1	17.2	10.9	

g) Case 7: 70-year-old male prostate cancer without effect of chemotherapy. This patient is getting worse when Vitamin A is decreasing. When WBC is decreasing, 3400/mm³, this patient was suffered from latent herpes zoster on the day 13/June. From this chance, PSA and γ -semino are increasing suddenly. Anyway, Vitamin A is getting decrease (Table 7).

Table 7.

	April 18	May 17	June 13	June 27
CEA	4.7	4.4	4.2	4.2
SLX	85	75	90	86
PSA	14.9	15.2	225	259
γ -Semino	18.3	18.9	27.9	27.7
Alb	66	64.7	61.7	64
α 1-gl	2.6	2.9	3.3	2.6
Vitamin A	25.4	24.5	23.7	22.5
Vitamin D	24.5	25	23.7	22.5
CRP	0.49	0.06	0.15	0.21
WBC	5000	8100	3400	4600

Conclusion

Cancer treatment is considered successful if DER and host factors, such as sufficient supplementation of Vitamin A, C, and D,

increased concentration of cyclic AMP, and appropriate WBCs are taken into consideration. Improvements in these seven host factors are important for predicting and preventing cancer. This method is also useful for preventing cancer as evidenced by the treatment results in the five patients as described above. In the case of reduction of Vitamin A and D, cancer processing getting worse.

Discussion

Although attempts were made to predict and prevent cancer in over 20,000 patients, since the differences in awareness between cancer medicine based on diagnostic imaging and pathologic diagnosis which are adhering to neoplasm shape and cancer prediction and prevention efforts that focus on host factors are substantial by utilizing biochemical TMCA examination. In this study, five patients with risky clinical cancers were subjected to our combinational treatment was followed by TMCA (tumor marker screening). During the treatment, the concentrations of Vitamin A, C and D in the blood were found to play an important role in the course of treatment.

Successful treatment was evidenced by an increased concentration of cyclic AMP. We confirmed the process by which immunity increases and treatment is considered successful. To date, cancer medicine has excessively relied on the diagnostic imaging and pathological diagnosis. Nevertheless, the host factors, DER, improvements in the blood concentrations of Vitamin A, C, and D and cyclic AMP, which were undervalued in the medical treatment of carcinoma until recently, were proven to be important in the path to successful treatment. If cancer prediction and prevention methods can be performed in more patients in the future, there will be further understandings of the importance of host factors in cancer prediction and prevention. With the emergence of Opdivo in the field of cancer medicine, the aspect of immunity has been increasingly receiving attention; however, the hope is that there will also be interest in the internal host factors in the body. The reduction of those people who are suffering from cancer is dependent upon not only neoplasm shape but also host factors. High dose of Vitamin A, C and D has no side effects at all in cancer patients.

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