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Case Report Open Access

Personalized Nutrition Therapy in Hashimoto's Thyroiditis and Herpes Zoster Oticus, Recalcitrant to Conventional Therapy: A Case Report

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Abstract

Personalized nutrition therapy (PNT) has been developing in terms of functional medicine. Its efficacy has been controversial. In the scope of functional medicine, the diagnostic methods to analyze blood are generally based on two kinds of perspectives; biochemistry, blood chemistry and CBC with differential counts. Out of two methods, I devised the latter of my own with imbibing the result of my Pulse Pattern Diagnosis (PPD). The PPD established by me can measure the metabolic, inflammatory, and/or hemodynamic states of major organs, using the radial artery in the wrist of each person. For example, when hepatobiliary tract cells are metabolically activated, and/or the liver is hyper-perfused, my PPD indicates correlation with the increased value of uric acid in blood analysis. The effect of vitamin B_5 on liver decreases the metabolic rate and blood flow into the liver in terms of my PPD. It has been reported that vitamin B_5 is important in breaking down the excess of uric acid in our body. Likewise, my blood analytic algorithm for PNT is created. I have four clinical records of two kinds of disease entities; herpes zoster oticus with acute otitis media (1 case), thyroid Hashimoto's thyroiditis (3 cases). These cases were not recalcitrant to conventional therapy but improved after PNT. In summary, PNT may be an alternative to the invincible infectious and autoimmune diseases recalcitrant to conventional therapy.

Keywords: Personalized medicine; Personalized nutrition therapy; Pulse pattern diagnosis; Hashimoto's thyroiditis; Herpes zoster oticus

Introduction

The term personalized medicine first appeared in published works in 1999 [1]. Topol [2] defines personalized medicine as the tailoring of medical treatments to the individual characteristics of each patient with a focus on the individual as the source of medical data and as the driver of health care [2].

As representative modern methods to perform personalized medicine, pharmacogenetics, SNP(Single Nucleotide Polymorphism), microarrays, antibiotic sensitive test, and various biomarkers have been known.

As a similar scope of personalized medicine, functional medicine deals with dysfunction in the physiology and biochemistry of the human body. Various methods were applied in functional medicine, such as nutrition, biochemistry, genetics, proteomics, etc [3]. Among them, Weatherby approached functional medicine in the perspective of individual nutritional status based on the analysis of blood chemistry and blood cells. For example, low AST (aspartate aminotransferase) is associated with vitamin B_6 deficiency [4]. Weather by published a series of textbooks about this, but in his books, references about nutritional status according to abnormal biomarker of blood test were not clearly submitted. In this manuscript, the term 'Personalized Nutritional Therapy (PNT)' was adopted to describe nutritional therapy suitable for each person in a certain disease condition.

As a part of PM, I have invented a method, Pulse Pattern Diagnosis (PPD), to measure the hemodynamic and cell metabolic states of the major organs (lung, liver, kidney, pancreas, adrenal gland, hollow viscus organs; gastrointestinal tract, bronchial tree, genitourinary tract, gallbladder, urinary bladder) in human body. PPD is measured through the radial artery in the wrist in human body. About PPD, the in-detail method is not disclosed herein. Through this technology, viremia, sepsis, and acute inflammatory diseases in major organs can be diagnosed.

As a supportive fact for my PPD, inflammation may be a proper example. During inflammation, there is an increased blood flow within the lesional tissue as two forms:

(1) Hyperemia (An active process resulting from arteriolar dilation and increased blood inflow).

(2) Congestion (A passive process resulting from impaired outflow of venous blood from a tissue) [5].

The increased blood flow in a certain organ accompanies a hemodynamic change. Herein, my PPD can detect hyperemia in the internal organs.

But until now, because the instrument to realize my PPD in a modern medical interpretation is not present, I have become to devise other alternative method to reflect my PPD results. Although not perfect, I have been correlating my PPD results into blood test results, such as blood chemistry and complete blood cell count and differential count in a similar method to that of Weatherby.

In contrast to that of Weatherby, unique point of my blood analysis derived from PPD is that hemodynamic and cell metabolic status of the major organs in disease conditions can be predicted and its corresponding nutritional components can be selected to solve disease conditions.

For example, if uric acid in blood test is overtly high, gout disease can be diagnosed in modern medicine. Besides, my PPD result indicates that the hemodynamic/cell metabolic status of the liver is hyper-perfused and metabolically increased and the corresponding nutrition component to solve this condition is vitamin B_5.

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It has been reported that elevated serum uric acid level is associated with chronic liver disease and elevated serum liver enzymes [6]. Vitamin B_5 is important in breaking down the excess of uric acid in our body [7,8]. Likewise, my blood analytic algorithm for PNT is created. Among my many case records, I present two disease entities; Hashimoto's thyroiditis and Herpes zoster oticus and will discuss about these phenomena.

Procedure

After blood sampling from a patient, blood test items to analyze are those of both routine blood chemistry (such as AST, ALT, uric acid, etc.) and blood cell count (RBC, WBC with differential count, etc.). The test item to interpret PNT was selected if its value is deviant from the normal range or the median value within normal range. For example, the AST level lower than normal range has tendency to be associated with vitamin B_6 deficiency. Vitamin B_6 deficiency is also associated with low hematocrit, for vitamin B_6 is involved in formation of red blood cells [9]. If blood test presents both low AST and low hematocrit, it can be presumed that the probability of vitamin B_6 deficiency is high. Based on this interpreted datum, PNT was prescribed.

Case Report

(1) Herpes oticus, 1 case: A woman had acute otitis media with a history of recurrent chronic otitis media and its ear operation. Her inflammatory condition was not improved even with two antibiotics prescribed by antibiotic sensitivity test, performed in one university hospital. I analyzed blood testing in terms of my PNT. After taking in the prescribed PNT for 47 days, as the photo for ear tympanic membrane shown (Figure 1), the exudate of otitis media was remarkably vanished. After PNT, exudate was subsided and two perforated holes of tympanic membrane veiled by exudate were visible.

Age/ Sex	TMTPO Ab (NL:60) (initial)	TMTPO Ab (NO: 34) (after PNT)	TMTPO Ab decrement(%)
54/F	1319/60=21	217/34=6	70
38/F	>3000/60=50	333/34=9	80
37/F	>3000/60=50	445/34=13	73
Average	72		

Table 1: Average 72% of decrement in TMTPO antibody titer after PNT.

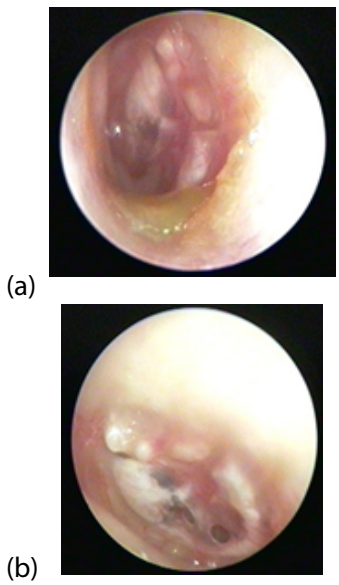

Figure 1: Old chronic fibrous otitis media with yellow exudate. (a): Before PNT, (b): After PNT.

(2) Thyroid Hashimoto's thyroiditis, 3 cases: The same method was applied to 3 cases of Hashimoto's thyroiditis. The results showed decrease of TMTPO Ab titer ranging from 70.8% to 80.4% after PNT application for 2 months (Table 1).

Discussion

Hashimoto's thyroiditis is chronic lymphocytic thyroiditis and the most common cause of hypothyroidism. It is caused by autoimmune destruction of the thyroid gland.

The serum biomarker to diagnose Hashimoto's thyroiditis is anti-TM TPO antibody titer (TM; antithyroid microsomal, TPO; antithyroid peroxidase). The patients positive for anti-TPO antibody have a risk to develop ensuing hypothyroidism or subclinical hypothyroidism [10]. Furthermore, Hashimoto's thyroiditis is correlated with increased risk of development of thyroid cancer [11].

With above reasons, if there is a method to decrease anti-TMTPO antibody titer, it may play a role in reducing the risk of thyroid hypothyroidism and the incidence of thyroid cancer. As hopeful clinical trials to reduce anti-TM TPO antibody titer, many articles about selenium supplement intake were published. But those results were proved to be statistically insignificant [12].

In this study, three cases of Hashimoto's thyroiditis showed average 72% decrement of anti-TM TPO antibody titer with PNT. The components of prescribed PNT in three cases of Hashimoto's thyroiditis are not same, for each person has a unique different blood test result and so the prescription of nutritional components are different among three patients. Herpes zoster oticus is herpes zoster infection along nerve fibers in ear (external auditory canal, tympanic membrane, middle ear cavity, inner ear).

In this case, antibiotic therapy after antibiotic sensitivity test was applied. It may be the most approved model for personalized medicine as now. But the inflammatory activity of this patient was not subsided.

Conclusion

However, after PNT using blood test interpretation algorithm based on PPD, the inflammatory activity was remarkably vanished. The main key component of this patient was copper. Because the safety of copper supplement dosage was not validated, sesame seed was prescribed as an alternative of it.

As a plausible medical hypothesis to explain above phenomena, I think that gastrointestinal mucosa associated lymphoid tissue (GI MALT) may play a key role in immune modulation. GI MALT is composed of lymphoid cells, M cells and histiocytes. PNT was transferred to our body through an oral intake. Food materials in gastrointestinal tract (GI tract) contact with M cells convey immune signals to MALT, which evokes systemic immune reaction. In addition, absorbed nutritional components from food materials are transferred to the liver via a portal vein, e.g., enterohepatic circulation and interact with hepatocytes of the liver. After procession of the liver, the food nutrients leaving the liver enter the heart and circulate within the blood and influence on cells in human body.

Although the precise mechanism to explain the clinical improvement of these cases in this manuscript cannot be proved in

detail as now, it can be concluded that my algorithmic interpretation based on the biomarkers in blood test, such as blood chemistry and blood cells, deviant from the normal range and median value within normal range, can make personalized nutritional therapy possible.

If this algorithmic interpretation of blood test result including blood chemistry and blood cells be validated clinically in a large scale and developed with continuing upgrade, genuine personalized nutritional therapy for diseases will be used for invincible disease entities recalcitrant to conventional therapy.

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