ISSN: 2161-1009
Biochemistry & Analytical Biochemistry

OPEN ACCESS Freely available online

Case Report

A Case Report on Mitochondrial Patterns and Prostate Cancer Treatment through Radiation and Clinical Aromatherapy

Fai Chan*

Department of Aromatic Medicine, Deli Aroma LLC, Unit 11202, Austin, United States of America

ABSTRACT

This is a case report on a person who was diagnosed with prostate cancer. He was given massage to complement the radiation treatment. In this study, we will examine the protocol in treating diabetes Type II and Rheumatoid Arthritis (RA) using a clinical approach to verify the hypothesis of mitochondria deficiency and excess. This results are very promising. Except for low body strength and mild to moderate edema, there was no side effects. This study did not impose any dietary restriction on the subject.

Keywords: Rheumatoid arthritis; Diabetes; Inflammation; Mitochondria

INTRODUCTION

While it is generally understood that Type 2 diabetes is categorized as an autoimmune disorder, it is also related to RA, another autoimmune condition. In both cases, the immune system mistakenly attacks the body, leading to the development of these diseases [1-4]. To tackle it, immunosuppressant is usually used to modulate the disorder/reaction or the over reactive responses to calm down the immunity attack to the body and to reduce inflammatory response and the pro inflammatory conditions in the body to subside [5,6]. However, if you study the mitochondrial activities exerted on the body, you will find that it is very different from the functional medicine understanding and more details can be laid down to tackle the issue to more precise ways as follows.

CASE PRESENTATION

Framework

To sustain a life, we must have continuous mitochondrial activities to generate sufficient heat needed to keep a cell functioning. Heat is generated in the body from mitochondrial activities and from the functioning of the organs. Additional heat may come from external environment or aerobic/high impact exercise. We can express the total heat in the following equation:

Heat total to maintain life,

= Heat from mitochondrial activities

+ Heat from organs functioning

+ Heat absorbed from external environment

+ Heat generated from aerobic or high impact exercise

When heat from mitochondrial activities is insufficient, heat from organs increases functioning (more inflammation) + Constant or more heat absorbed from outside the body=Heat total to maintain life (Prediabetes).

If the total heat is insufficient to maintain life, then mitochondria will respond by generating more heat (inflammation) to reach a level at or above what is sufficient to maintain normal functioning (Diabetes).

When mitochondria generate too much heat, there are two things that can be done to reduce heat intake. One, decrease organ functioning (anti-inflammatory). Two, absorb less heat from the environment by reducing the body's ability to absorb heat. By triggering the body to do those two things, these diseases can be better controlled and treated.

Research has shown that the activities from mitochondria produce oxidative stress in our body suggesting that our body is intrinsically pro-inflammatory. When our body fails to produce enough heat to sustain normal function, the resulting inflammation will be more severe [7,8].

The human body can gravitate toward a state of excessive heat (inflammation) or a state of heat deficiency (lack of energy). A person with an inflamed body tends to be more agitated and more anxious. A person who lacks energy is more prone to be depressed

Correspondence to: Fai Chan, Department of Aromatic Medicine, Deli Aroma LLC, Unit 11202, Austin, United States of America, E-mail: deliaroma8@gmail.com

Received: 12-Nov-2024, Manuscript No. BABCR-24-27498; **Editor assigned:** 14-Nov-2024, PreQC No. BABCR-24-27498 (PQ); **Reviewed:** 28-Nov-2024, QC No. BABCR-24-27498; **Revised:** 05-Dec-2024, Manuscript No. BABCR-24-27498 (R); **Published:** 12-Dec-2024, DOI: 10.35248/2161-1009.24.13.557

Citation: Chan F (2024). A Case Report on Mitochondrial Patterns and Prostate Cancer Treatment through Radiation and Clinical Aromatherapy. Biochem Anal Biochem. 13:557

and tired. These observations give us insight into the ailments of Rheumatoid Arthritis or Type II Diabetes given that both have inflammation.

The plus and minus from mitochondrion's self-regulating activities

For a diabetic, heat deficiency is a key factor contributing to the accumulation of sugar. When mitochondrial activities only produce 50% of the heat, we term this condition as deficient mitochondrial activities. The onset of diabetes causes this condition. A Type II Diabetes patient lacks energy and takes more sugar and fats to boost the energy [9]. Because of the inertia of the organs in heat production that are essential in converting sugar to benefit our body functioning, the excessive sugar/sweets damages the organs through inflammation. Over time, the inflammation will lead to ulceration. To prevent further ulceration and preserve functioning of other parts of the body, some body part(s) of the patient may need to be surgically removed.

In diabetic cases, the circulation of fluid including lymph and blood also water is difficult. Edema is a big concern to the patients [10]. High impact exercises are often recommended to improve circulation. Obesity is a consequence of a diabetic condition. For people who are fat and afraid of hot weather, water aerobics is an option to achieve weight loss and increases energy level.

RESULTS AND DISCUSSION

Rheumatoid arthritis-mitochondrion's activities in excessive loads

From a RA case, the number of mitochondria are fewer than the normal person. Each mitochondrion has to do more work to sustain life, leading to swelling and inflammation [11]. As mitochondria swells, its internal fluid can burst. For example, the normal mitochondria existing in liver is 1000-2000 units with each hepatocyte. In RA, it is hypothesized that the number of mitochondria is less than 1000. Research showed that it is a dysfunction in excess of synovial fluids and excessive inflammation [12,13]. This paper will study mitochondria using a clinical approach and differentiating the cases of excess inflammation and excessive synovial fluids. The discussion above has shown us that although RA patients and diabetic patients both experience (possibly acute) inflammation, the underlying causes of inflammation are different (Table 1).

Table 1: Summary of inflammatory response for different conditions.

	Organs functioning (Internal heat)	External heat (Outside of organs)	Mitochondria (MC)	Notes
Pre-diabetes	Inflammation	No inflammation	No inflammation	-
Diabetes type II	Inflammation	No inflammation	Inflammation	MC deficient
Rheumatoid arthritis	Inflammation	Inflammation	Inflammation	Insufficient MC numbers

Aromatherapy application through deficiency and excess in formulating a treatment plan

This is a case of an 87-year-old man that was diagnosed with prostate cancer. Patient has been receiving therapeutic treatment work for anti-aging purposes for 3 years. During the 3 years, patient complaints were osteoporosis in patient kneecap, arthritic pain on 1-2 fingers on patient right hand, sciatic pain, tightening of upper back nerve and neck stiffness on both sides.

The subject had many sessions of body treatment, including the period where patient underwent radiation therapy. A blend of minty formulations was administering for each treatment. The basic oils include lavender, frankincense and peppermint. Occasionally rosemary ct. alpha pinene and lavender grosso were added for invigorating but anti-inflammatory results. The purpose of the formulation was to boost mitochondrial activities so that patient immunity was strengthened. The choice of minty oil is very vital as any kind of minty oil especially peppermint can penetrate deep to the bone, cool enough to suppress inflammation while the cryotherapy results also can induce a process called "rubefacient" so that the toxins can be expelled out through this process. Patient had a normal diet but with more emphasis on taking vegetables, salmon and white meat such as chicken breast.

All the symptoms mentioned previously were alleviated after each session. Patient was able to walk 1 mile a day, jump 12 times nonstop without breathing difficulty and speak effortlessly after continuous bodywork. Patient also found the minty formulations helpful in terms of boosting his energy level and tolerating radiation treatment. Patient had no side effects like headaches or vomiting. Patient radiation treatment not only helped him to destroy cancer cells, but it also alleviated his sciatic pains and stiffness in his upper back.

For neck treatment, a formula was used to increase his oxygen intake. The formula included a lotion-based formula with Ylang-ylang, lavender, peppermint, citrus (orange/lemon) and patchouli. The formula soothed his muscle and loosened his neck. As a result, he was able to increase his oxygen intake.

Patient radiation treatment reduced lymphatic drainage and caused edema from his lower legs to his feet. The body treatment also helped his lymphatic drainage and reduced edema.

Radiation deflated the content of mitochondria. The blends accelerated the recovery of mitochondria. In this case, the blends reduced inflammation, invigorated the activities and improved the oxygen intake. As a result, the mitochondria retained their numbers and recovered their functions. It took 2-3 days for the subject after treatment to recover to his normal state. Aromatherapy applications can be summarized in (Table 2).

Table 2: Summary of treatment application and objective.

Treatment application	Objective
Lavender, Frankincense and Peppermint essential oils	Immunity boosting
Lavender grosso, Rosemary Ct. alpha pinene essential oils	Anti-inflammation
Yang ylang, Lavender, Peppermint, Citrus (orange or lemon) and Patchouli essential oils	Increasing oxygen intake
Lymphatic massage	Improving lymphatic drainage

Note: The subject's blood pressure was under 100 mmHg before radiation treatment; After the treatment began, his blood pressure increased to 110 mmHg.

CONCLUSION

The work mentioned earlier provides a framework on how deficiency or excess of mitochondrial activities affect. How our body responds to inflammatory or pro inflammatory responses under the generally termed "auto immunity reactions". Examination of mitochondria through functional medicine and clinical work yielded different explanations. The latter gave a more precise result.

LIMITATIONS AND RECOMMENDATIONS FOR FUTURE STUDIES

This is an exploratory study on the use mitochondrial sufficiency to improve treatment protocols of diabetes II and Rheumatoid arthritis. There are many approaches to study mitochondrial sufficiency. In this case, a phenomenon called deflation of mitochondria-caused by radiation. More research on phenomenon is needs to determine whether radiation can be utilized to improve the functionality of mitochondria.

REFERENCES

1. Zhang Y. Role of Autoimmunity in development of type 2 diabetes. M Immunol Allergy. 2023;7(1):1-7.
2. Prasad M, Chen EW, Toh SA, Gascoigne NR. Autoimmune responses and inflammation in type 2 diabetes. J Leukoc Biol. 2020;107(5):739-748.
3. Smith MH, Berman JR. What is rheumatoid arthritis?. JAMA. 2022;327(12):1194.
4. Winer H, Rodrigues GO, Hixon JA, Aiello FB, Hsu TC, Wachter BT, et al. IL-7: Comprehensive review. Cytokine. 2022;160:156049.
5. Jenkins BJ, Blagih J, Ponce-Garcia FM, Canavan M, Gudgeon N, Eastham S, et al. Canagliflozin impairs T cell effector function via metabolic suppression in autoimmunity. Cell Metab. 2023;35(7):1132-1146.
6. Isaacs JD, Burmester GR. Smart battles: Immunosuppression versus immunomodulation in the inflammatory RMDs. Ann Rheum Dis. 2020;79(8):991-993.
7. Kowalczyk P, Sulejczak D, Kleczkowska P, Bukowska-Ośko I, Kucia M, Popiel M, et al. Mitochondrial oxidative stress-a causative factor and therapeutic target in many diseases. Int J Mol Sci. 2022;22(24):13384.
8. Chan F. High blood pressure (hypertension)-applying hot and cold receptivity perspective in clinical aromatherapy approach and the examination of its application in emergency settings part I. Biochem Anal Biochem. 2022;11(3):421.
9. Holesh, Julie E, Sanah A, Andrew M. Physiology, Carbohydrates. 2023.
10. Wu SC, Crews RT, Skratsky M, Overstreet J, Yalla SV, Winder M, et al. Control of lower extremity edema in patients with diabetes: Double blind randomized controlled trial assessing the efficacy of mild compression diabetic socks. Diabetes Res Clin Pract. 2017;127:35-43.
11. Kowalczyk P, Sulejczak D, Kleczkowska P, Bukowska-Ośko I, Kucia M, Popiel M, et al. Mitochondrial oxidative stress-a causative factor and therapeutic target in many diseases. Int J Mol Sci. 2021;22(24):13384.
12. An P, Wei LL, Zhao S, Sverdlov DY, Vaid KA, Miyamoto M, et al. Hepatocyte mitochondria-derived danger signals directly activate hepatic stellate cells and drive progression of liver fibrosis. Nat Commun. 2020;11(1):2362.
13. Ma C, Wang J, Hong F, Yang S. Mitochondrial dysfunction in rheumatoid arthritis. Biomolecules. 2022;12(9):1216.