



## Treatment of Patients with CKD 4 Stage by the Mineral Pulse Light Stimulus on KI Acupoints

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### ABSTRACT

**Background:** The burden of Chronic Kidney Disease (CKD) is increasing worldwide. For CKD prevention, it is important to gain insight in commonly consumed foods and beverages in relation to kidney function.

**Objectives:** The purpose of this study is to perform clinical trial on CKD 4-stage patient by mineral pulse light stimulus on KI acupoints without any drugs use.

**Methods:** CKD 4 stage patients (male 31, female 18), was stimulated by Mineral Pulse Light Stimulator (MPLS). Stimulus acupoints; KI3, SP6, BL23. The selected acupoints were stimulated by MPLS for 50 minutes~60 minutes once a day. The same method was performed on the patients for 2 months~3 months.

**Results:** After treatment, the general patient conditions were recovered normal and eGFR was improved to  $92.33 \pm 2.11$  mg/min/1.72m<sup>2</sup> from  $19.42 \pm 0.54$  mg/min/1.73m<sup>2</sup> without any drugs use. The efficacy rate was 81.5% ( $P < 0.01$ ).

**Conclusion:** CKD 4 stage patients was treated by mineral pulse light stimulus on KI acupoints without any drugs use.

**Keywords:** Acupuncture meridian, CKD 4 stage, Mineral pulse light stimulus, Chronic kidney disease, Acupoints

### INTRODUCTION

Chronic Kidney Disease (CKD) is a type of kidney disease in which there is moderate loss of kidney function over a time of months to years. Initially in there is no generally symptoms; alter, symptoms have the include leg swelling, feeling tired, vomiting, loss of appetite and confusion. Complications can relate to hormonal dysfunction of the kidneys and also including of (in chronological order) high blood pressure (often related to activation of the renin-angiotensin-aldosterone system), bone disease and anemia. After that additionally CKD patients have markedly increased cardiovascular complications with the increasing the risks of death and hospitalization [1].

Causes of chronic kidney disease include diabetes, high blood pressure, nephritis and polycystic kidney disease. Risk factors may also related a family history of chronic kidney disease. Diagnosis is by blood tests to calculate the estimated Glomerular Filtration Rate (eGFR), and a urine test to measure the albumin. Ultrasound or kidney biopsy actually may include the performed to determine the underlying cause. Several severity-based staging systems may be in use [2].

Observing at-risk people is recommended. Starting treatments may also include medications to lower blood pressure, blood sugar and cholesterol. Angiotensin Changes to Enzyme Inhibitors (ACEIs) or angiotensin II receptor antagonists

(ARBs) are casually first-line agents for blood pressure conduct, as they slow development of the kidney disease and the risk of heart disease. Curve diuretics may be used to reduce the edema and if needed, to forward lower blood pressure. NSAIDs it may should be avoided. Other options of the suggested recommendations are measures include staying active and some diet changes such as a low-salt diet and the right amount of protein. Treatments for laziness and bone disease are also be required. Severe disease wants the hemodialysis, peritoneal dialysis, or a kidney transplantation for staying alive [3].

Chronic kidney disease affected 753 million people in worldwide in 2016; 417 million females and 336 million males. In 2015 it caused 1.2 million deaths, upon that 409,000 in 1990. The source of that contribute to the highest number of deaths are high blood pressure at 550,000 followed by diabetes at 418,000 and glomerulonephritis at 238,000.

Chronic kidney disease may also shows the conditions that harm your kidneys and reduces their ability to keep you healthy by take out the wastes from your blood. If kidney diseases improvise, wastes can build to increase levels in your blood and this makes you feel sick. You may increase your life complications [4].

The main focus of the present study were as follows:

- High blood pressure
- Anemia (low blood count)
- Weak bones
- Very low nutritional health
- Nerve collapse

Kidney disease also develop your risk of having heart and blood vessel disease. These difficulty may happen slowly over a long time period. Early clarification and treatment after from keep chronic kidney disease from reaching very worse. When kidney disease discover, it may in time cause to kidney failure, which we want treatment for dialysis or a kidney transplant to increase our life [5].

### Kidney Disease Facts

- 37 million American adults have CKD and millions of others are at very high risk.
- Early reduction can help stop the progression of kidney disease to kidney failure.
- Heart disease is the first cause of death for all people with CKD.

### The Main Causes of Chronic Kidney Diseases

There are a few many other conditions or circumstances that can source kidney disease.

- **Glomerulonephritis:** Glomerulonephritis is a group of diseases that cause inflammation and infect the kidney's filtering units. These confusions are the third most very common type of kidney disease.
- **Inherited diseases:** Polycystic kidney disease or PKD, is a common take over disease that causes large injury to form in the kidneys and damage the environmental tissue.
- **Kidney and urinary tract abnormalities before birth:** Malformations that causes as a baby increase in its mother's womb. For example, a very largely may occur that reduce normal outflow of urine and affects urine to flow back up to the kidney. This effects the kidney and may cause the infection.
- **Autoimmune diseases:** When the body's cover system, the immune system, turns opposed to the body, it's called an autoimmune disease. Lupus nephritis is a type of autoimmune disease that results in inflammation (swelling or scarring) of the small blood vessels that filter misuse in your kidney.
- **Other causes:** Difficulty caused by kidney stones or tumors can cause kidney damage.

### Risk Factors of Chronic Kidney Diseases

Chronic kidney causes anyone at any age. However, few people are more likely than others to increase kidney disease. You can increase the disease of chronic kidney disease as if you:

- Have diabetes
- Have high blood pressure
- Have a family history of kidney failure
- Are older
- Belong to a population people with a high rate cause of diabetes or high blood pressure, such as African Americans, Hispanic Americans, Asian, Pacific Islanders, and American Indians.

## Symptoms of Chronic Kidney Diseases

Most of the people may not have identified until their kidney disease is advanced. However, you may notice that you:

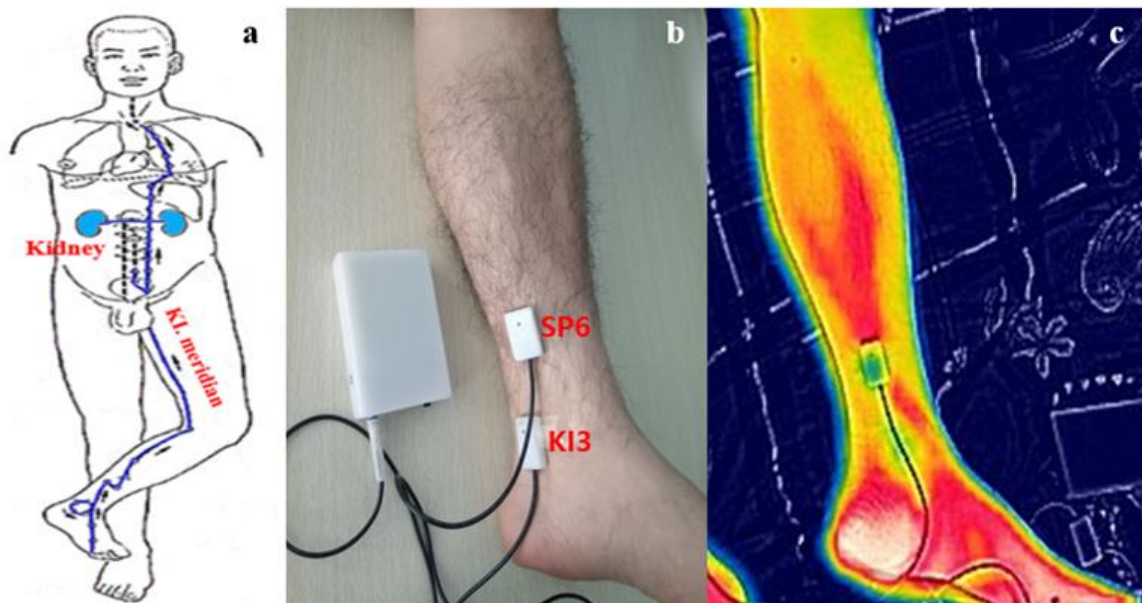
- Felt very tired
- Have trouble concentrating
- Have a poor appetite
- Have trouble sleeping
- Have muscle cramping at night
- Have swollen feet and ankles
- Have puffiness around your eyes, especially in the morning
- Have dry, itchy skin
- Need to urinate more often, especially at night.

## Additional Tests

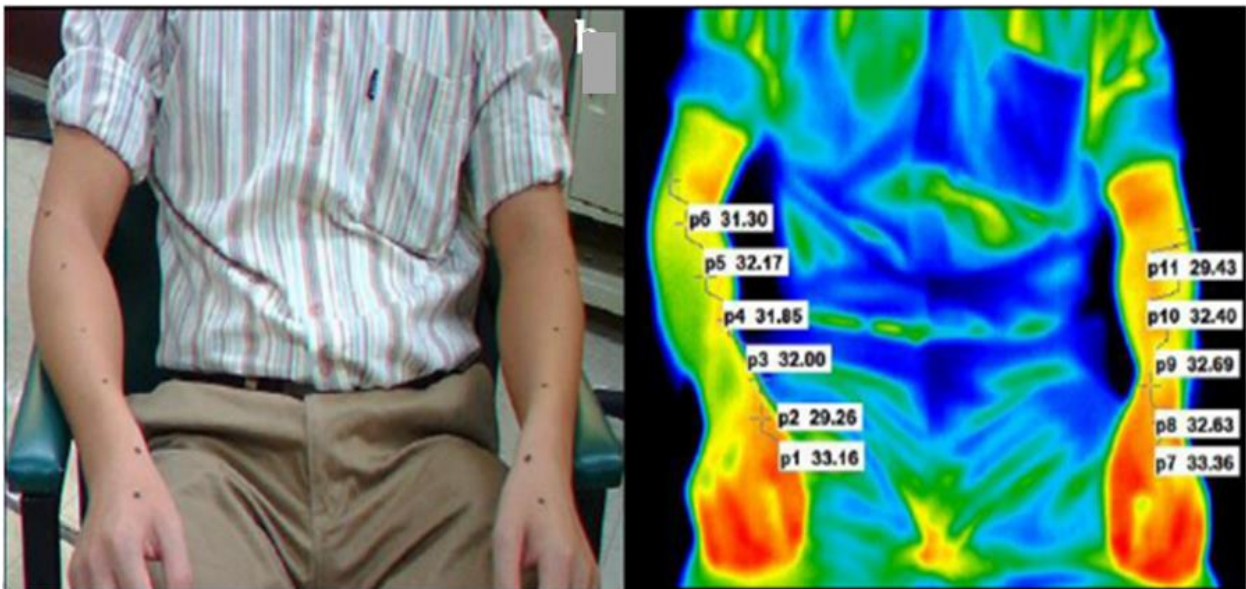
- Your doctor may perform a CT scan to get a clearness of your kidneys and urinary tract to identify any kidney or urinary tract structure problems. Using this test, they can identify if your kidneys are too large or small or have issues like a kidney stone or any other problems.
- They may also select to biopsy the kidney to verify for a specific type of kidney disease, see how much kidney damage has occurred and help plan treatment. During this process, the doctor removes small pieces of kidney tissue and examine at them under a microscope.

## MATERIALS AND METHODS

The burden of Chronic Kidney Disease (CKD) is increasing worldwide. For CKD prevention, it is important to gain insight in commonly consumed foods and beverages in relation to kidney function. The use of plant-based diets in CKD may have other benefits in the areas of hypertension, weight, hyperphosphatemia, reductions in hyperfiltration and, possibly, mortality [6-8]. In conclusion, conservative non-drug therapy for CKD 4 stage is nothing. On the other hand, the Mineral Pulse Light Stimulus (MPLS) on acupoints, induces Meridian-Like High Thermal Lines (MLHTL) along the classic meridian. However, needle and moxa stimulus on same acupoints have induced never meridian-like high thermal line until now from 1990s (Figures 1 and 2) [9].



**Figure 1 KI, SP meridian-like high thermal line is induced along the classic meridian course when SP6 acupoint is stimulated by MPLstimulator. a) Shows KI, SP meridian at the classic meridian figure, b) The mineral pulse light stimulator, c) The linear rising temperature is 1.8°C**



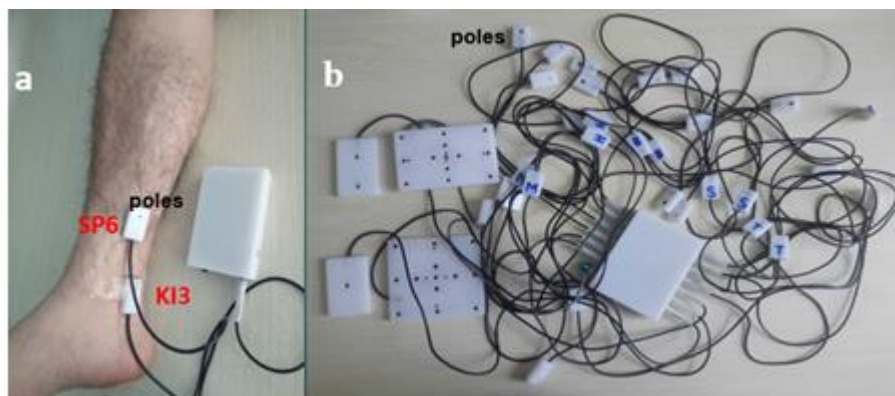
(a) (b)

**Figure 2 a) Acupuncture points and method, b) LI meridian-like high thermal line is never induced along the classic LI meridian course when LI acupoints (6 points) is stimulated by needles**

Therefore this result shows that MPL stimulus occur bigger physiological change along the classic meridian course than needle and moxa and simultaneously, it can occur bigger physiological change (cure effect) in the target organ connected by this meridian in according to the classic meridian theory. So, we performed clinical trial on CKD 4 stage patients by MPLS therapy [10].

### Mineral Pulse Light Stimulator

Light source is LED of 360 nm~760 nm range and the mineral film as light filter is adhesive at front LED. The pulse light frequency is same as the heart beat (average 1.25 Hz) (Figure 3) [11].



**Figure 3 Mineral pulse light stimulator is non-invasive. Shows the stimulus method (a) and one set of mineral pulse light stimulator (b). Mineral pulse light stimulator is fixed at acupoints by adhesive tape (a).**

### Patient and Method

CKD 4 stage patients (male 31, female 18. Age;  $51.2 \pm 1.9$ ), was stimulated by Mineral Pulse Light Stimulator (MPLS). Stimulus acupoints; KI3, SP6, BL23. The selected acupoints were stimulated by MPLS for 50 minutes~60 minutes once a day. The same method was performed on the patients for 2 months~3 months [12].

### RESULTS

After treatment, the general patient conditions were recovered normal, and eGFR was improved to  $92.33 \pm 2.11 \text{mg/min/1.72 m}^2$  from  $19.42 \pm 0.54 \text{mg/min/1.73m}^2$  without any drugs use (Table 1). The efficacy rate was 81.5% ( $P < 0.01$ ).

**Table 1 Change of eGFR and RBC, before and after treatment**

Indicator	Before	After
eGFR (mg/min/1.73 m <sup>2</sup> )	19.42 ± 0.54	92.33 ± 2.11
RBC (T/L)	2.22 ± 0.32	4.31 ± 0.43

### CONCLUSION

CKD 4 stage patients was treated by mineral pulse light stimulus on KI acupoints without any drugs use. This result shows possibility that CKD 4~5 stage can be treated by non-drug therapy as same as mineral pulse light stimulus on the acupoints. And also, this result is one of evidence on morpho-functional connection into kidney ←KI meridian ← KI acupoints at feet.

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### REFERENCES

1. Zhang, D, et al. "Research on the acupuncture principles and meridian phenomena by means of infrared thermography." *Acupunc Res* 15(4), 1990: 319-323.
2. Forner, Alejandro, et al. "Treatment of hepatocellular carcinoma." *Critic Rev Oncol/Hematol* 60(2), 2006: 89-98.
3. Litscher, Gerhard. "Infrared thermography fails to visualize stimulation-induced meridian-like structures." *BioMed Engg Online* 4(1), 2005: 1-8.
4. Singhal, Shashideep, et al. "Management of refractory ascites." *Amer J Therapeu* 19(2), 2012: 121-132.
5. Kelly, Sean G, et al. "The utilization of palliative care services in patients with cirrhosis who have been denied liver transplantation: A single center retrospective review." *Ann Hepatol* 16(3), 2017: 395-401.
6. Pose, Elisa, and Andres Cardenas. "Translating our current understanding of ascites management into new therapies for patients with cirrhosis and fluid retention." *Diges Disea* 35(4), 2017: 402-410.
7. Chen, Rung-Sheng, et al. "Thermal imaging analysis for acupuncture needling study by thermal graphic data based on the large intestine meridian of hand yangming's and the lung meridian of hand taiyin's acupoints." *Intern J Med Res Hlth Sci* 6(7), 2017: 19-28.
8. Langberg, Karl M, Jennifer M. Kapo, and Tamar H. Taddei. "Palliative care in decompensated cirrhosis: A review." *Liver Intern* 38(5), 2018: 768-775.
9. Cai, Wa, et al. "Thermal effects of acupuncture by the infrared thermography test in patients with tinnitus." *J Acupunc Meridi Stud* 12(4), 2019: 131-135.
10. Fausto, Nelson, and Jean S. Campbell. "Mouse models of hepatocellular carcinoma." *Seminars Liver Disea* 30(1). 2010: 87-98.
11. AC van Westing, et al. "Diet and kidney function: A literature review." *Curr Hypertens Rep* 22(2), 2020: 1-9.
12. Joshi, Shivam, et al. "Plant-based diets for prevention and management of chronic kidney disease." *Curr Opin Nephrol Hypertens* 29(1), 2020: 16-21.