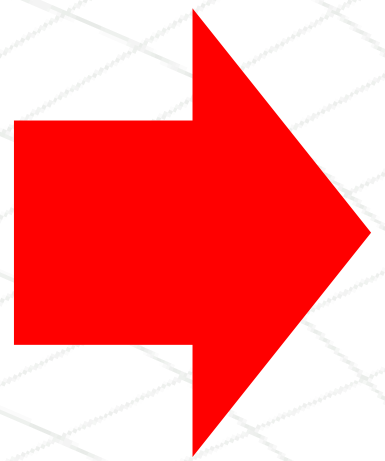


# *Adult Health and Active Lifestyle: The Botanical Ingredients that can Make a Difference*

Giovanni Appendino  
Scientific Advisor at Indena S.p.A  
[giovanni.appendino@indena.com](mailto:giovanni.appendino@indena.com)

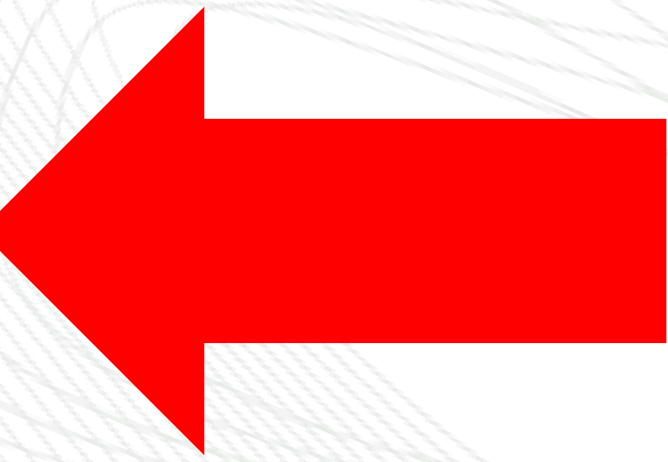
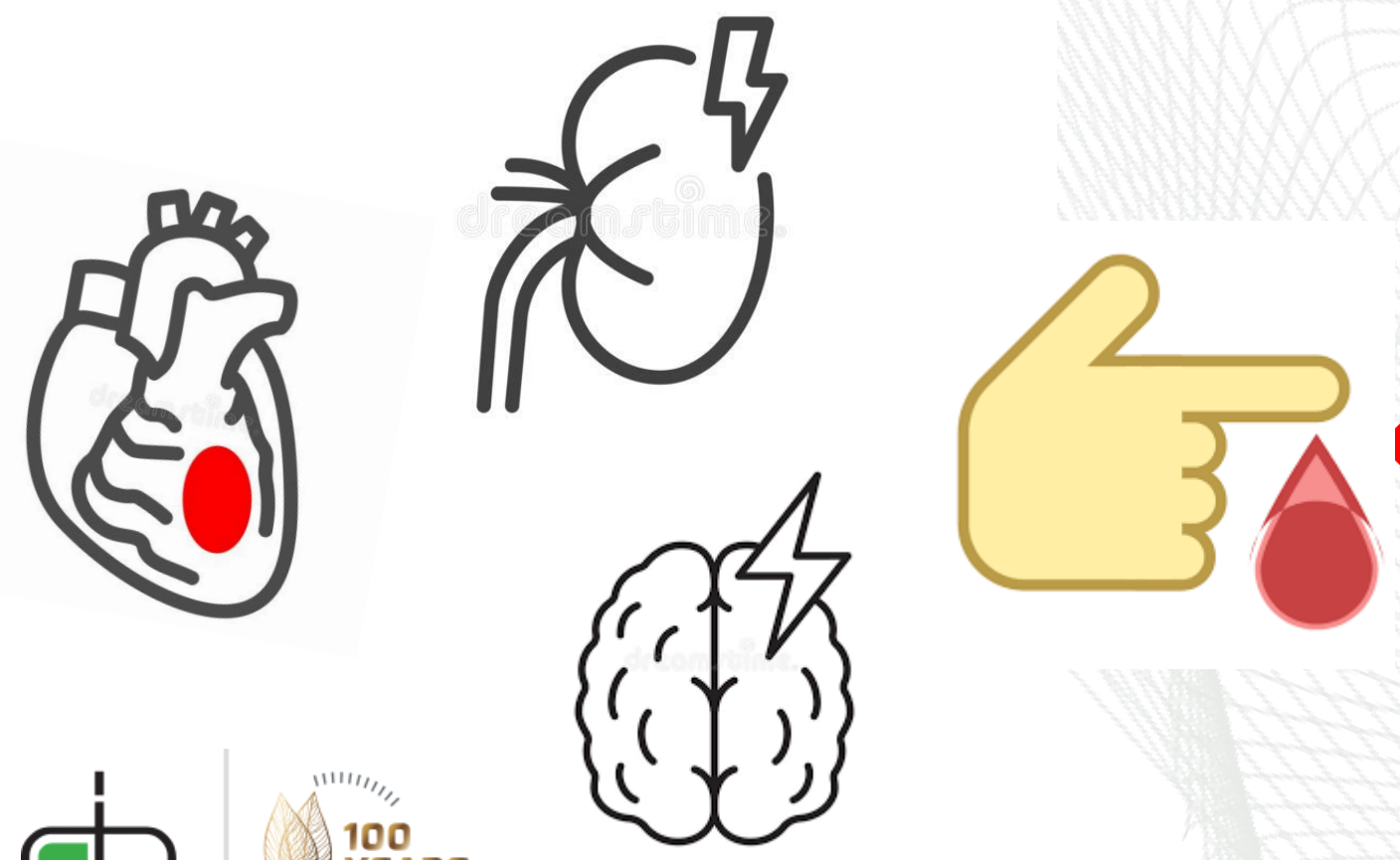


# Metabolic syndrome in its five declinations is the most common cause of poor health in adults, and is strongly associated to Western lifestyle and diet



**IF YOU HAVE ANY THREE OF THE FOLLOWING SYMPTOMS:**

- ✓ BLOOD PRESSURE HIGHER THAN 130 OVER 85
- ✓ FASTING BLOOD SUGAR OVER 100
- ✓ A WAIST LARGER THAN 40 INCHES FOR MEN OR 35 INCHES FOR WOMEN
- ✓ HDL CHOLESTEROL UNDER 40 FOR MEN AND UNDER 50 FOR WOMEN
- ✓ TRIGLYCERIDES OVER 150



# The «Western» lifestyle problems with physical activity and eating behavior were worsened by Covid-related confinement

The  
Harvard  
Gazette

HEALTH & MEDICINE

## Did we really gain weight during the pandemic?

Lung Disease & Respiratory Health > Coronavirus > News >

## Nearly Half of Americans Gained Weight in Pandemic's First Year



*nutrients*



Article

### Effects of COVID-19 Home Confinement on Eating Behaviour and Physical Activity: Results of the ECLB-COVID19 International Online Survey

# Toward a dual pandemic? Within adults those already overweight are those who gained more weight during Covid-related confinement

## Double trouble: a pandemic of obesity and COVID-19

### Highlights

- Nearly half (48%) of the adult Americans gained weight during the pandemic.
- ➔ Those who were overweight before the pandemic were most likely to gain weight.
- Depression and anxiety symptoms were strong predictors of weight gain in pandemic.
- Time since last weight check and children at home were related to excess weight gain.



Diabetes & Metabolic Syndrome: Clinical Research & Reviews 16 (2022) 102392

Contents lists available at ScienceDirect

Diabetes & Metabolic Syndrome: Clinical Research & Reviews

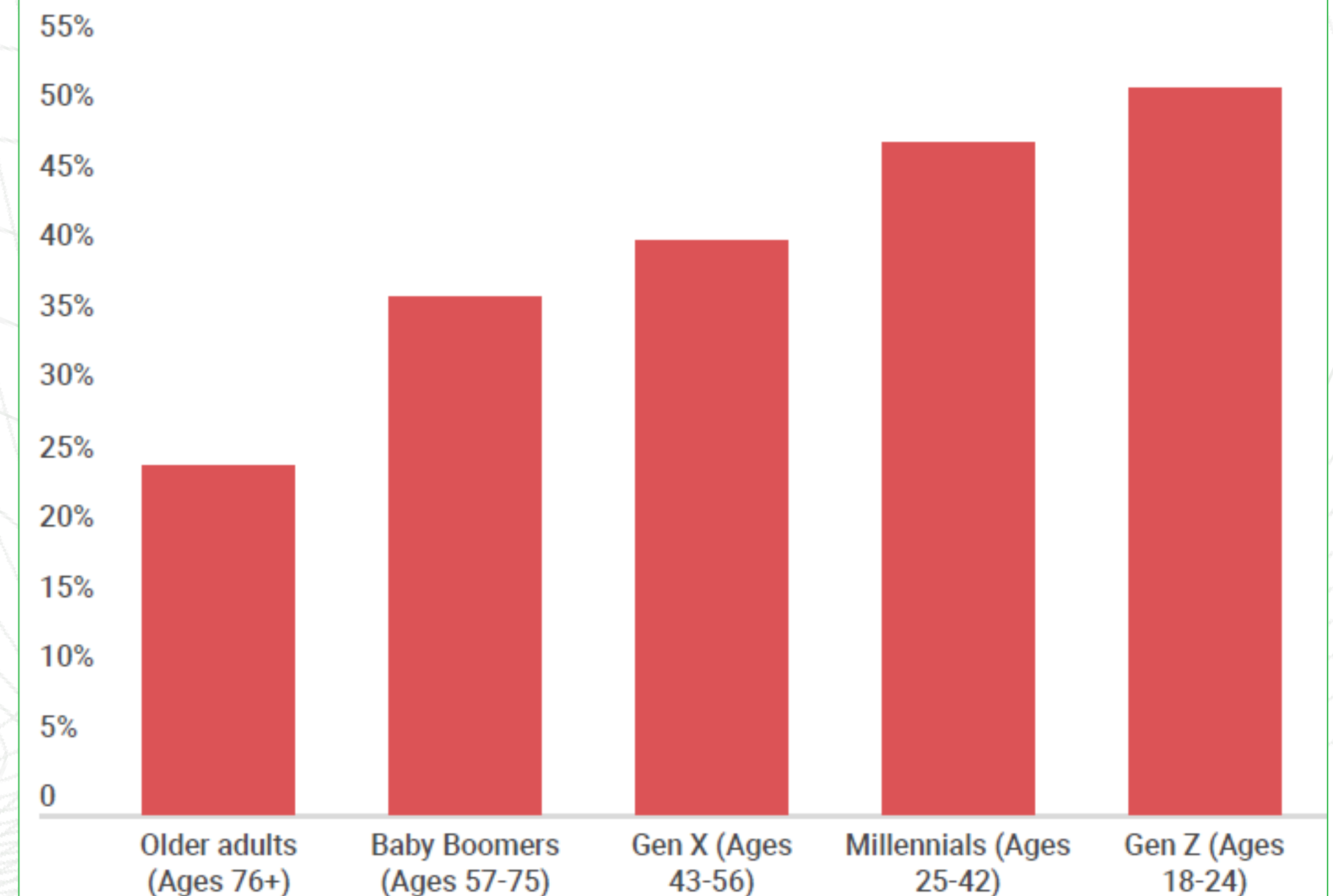
journal homepage: [www.elsevier.com/locate/dsx](http://www.elsevier.com/locate/dsx)

Original Article

COVID-19 pandemic and weight gain in American adults: A nationwide population-based study

Jagdish Khubchandani <sup>a,\*</sup>, James H. Price <sup>b</sup>, Sushil Sharma <sup>c</sup>, Michael J. Wiblishauser <sup>d</sup>, Fern J. Webb <sup>e</sup>

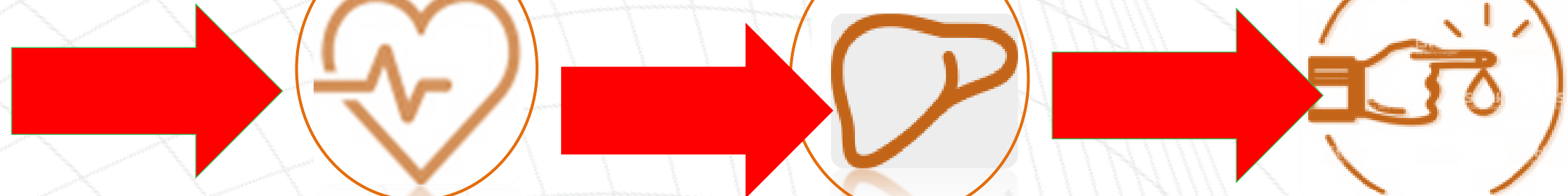
<sup>a</sup> New Mexico State University, Las Cruces, NM, 88002, USA










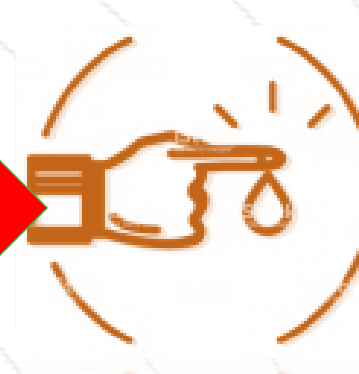





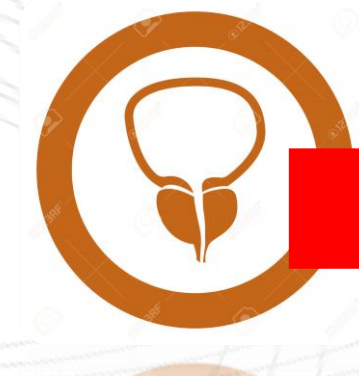
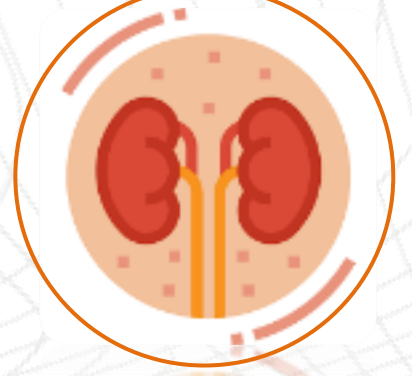


# Metabolic syndrome is strongly related to diet and its profile of non-essential micronutrients (nutraceuticals)



# Curcumin Phytosome (Meriva®) has been clinically investigated in conditions associated to metabolic syndrome



Metabolic syndrome is associated to gradual loss of liver and kidney functions: NFLD and CKD

-   
JOINT AND BONE HEALTH: 4
-   
EYES DISORDERS: 6
-   
SPORTS NUTRITION: 2
-   
DIAGNOSTIC AGENT: 1
-   
DRUGS INTERACTION: 1
-   
CARDIOVASCULAR HEALTH: 1
-   
LIVER HEALTH: 2
-   
DIABETES: 3
-   
HEALTHY AGING: 1
-   
NEUROPATHIES: 2
-   
RESPIRATORY HEALTH: 1
-   
PAIN MANAGEMENT: 1
-   
GUT HEALTH: 2
-   
PROSTATE HEALTH (BPH): 1
-   
KIDNEY HEALTH: 2
-   
SKIN DISORDERS: 2
-   
SUPPORTIVE CARE: 7

# Curcumin and kidneys protection

International Urology and Nephrology (2021) 53:1231–1238  
<https://doi.org/10.1007/s11255-020-02760-z>

NEPHROLOGY - ORIGINAL PAPER


## Can curcumin supplementation reduce plasma levels of gut-derived uremic toxins in hemodialysis patients? A pilot randomized, double-blind, controlled study

Roberta T. Salarolli<sup>1</sup> · Livia Alvarenga<sup>2</sup> · Ludmila F. M. F. Cardozo<sup>3</sup> · Karla T. R. Teixeira<sup>2</sup> · Laís de S. G. Moreira<sup>2</sup> · Jordana D. Lima<sup>4</sup> · Silvia D. Rodrigues<sup>4</sup> · Lia S. Nakao<sup>4</sup> · Denis Fouque<sup>5</sup> · Denise Mafra<sup>1,2,3,6</sup> 

International Urology and Nephrology  
<https://doi.org/10.1007/s11255-022-03182-9>

NEPHROLOGY - ORIGINAL PAPER

## Curcumin supplementation improves oxidative stress and inflammation biomarkers in patients undergoing hemodialysis: a secondary analysis of a randomized controlled trial

Livia Alvarenga<sup>1</sup>  · Ludmila F. M. F. Cardozo<sup>2</sup> · Beatriz O. Da Cruz<sup>2</sup> · Bruna R. Paiva<sup>2</sup> · Denis Fouque<sup>3</sup> · Denise Mafra<sup>1,2,4</sup>

**JKD KIDNEY DISEASES**

## The Effect of Curcumin in Prevention of Contrast Nephropathy Following Coronary Angiography or Angioplasty in CKD Patients

Maryam Hami,<sup>1</sup> Amir Bigdeli,<sup>2</sup> Ramin Khameneh-Bagheri,<sup>3</sup> Omid Rajabi,<sup>4</sup> Maryam Salehi,<sup>5</sup> Farnaz Zahedi-Avval<sup>3</sup>

**BCPT**  
Basic & Clinical Pharmacology & Toxicology

Basic & Clinical Pharmacology & Toxicology, 2018, 122, 65–73

Doi: 10.1111/bcpt.12817

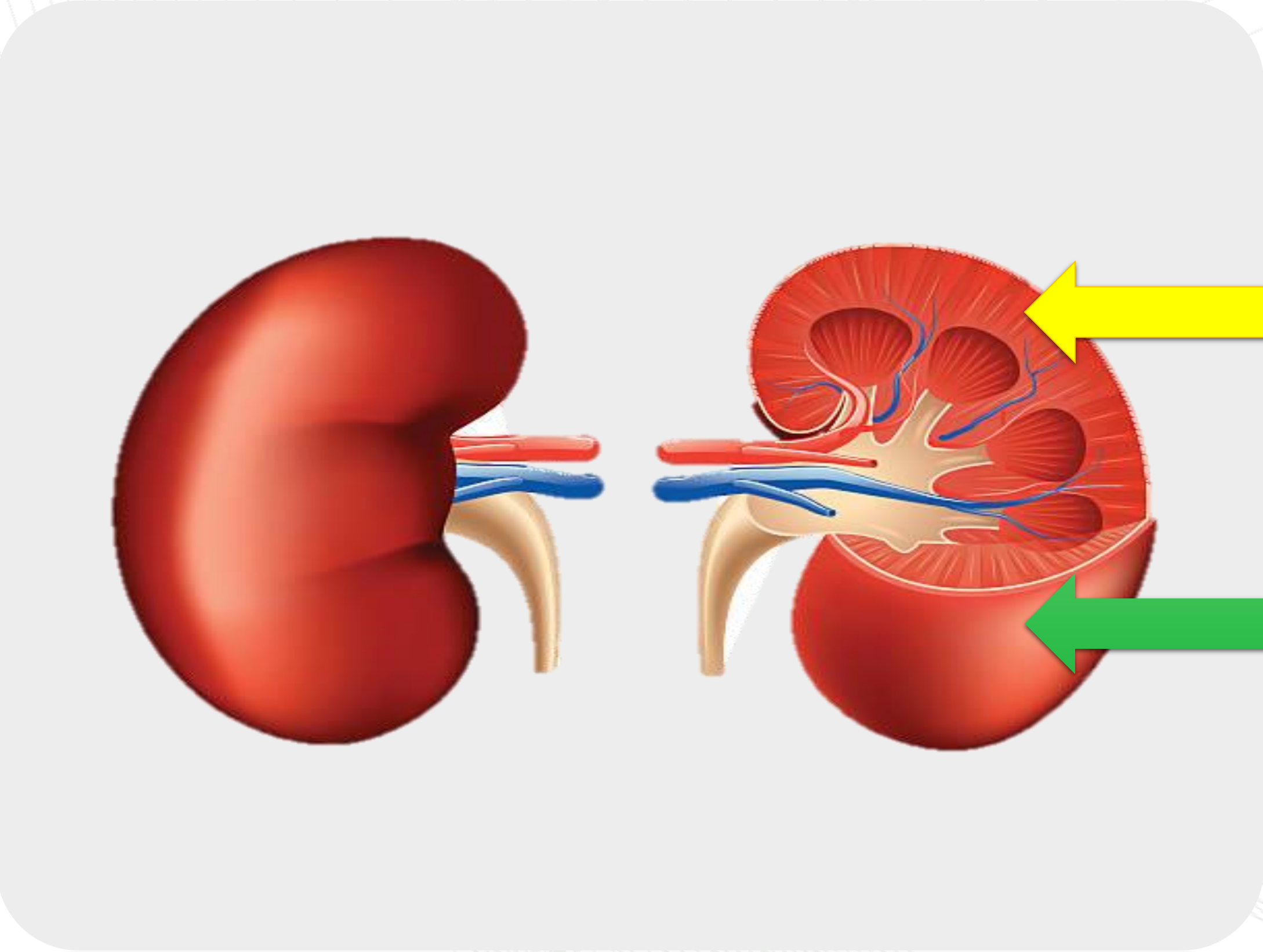
## Curcumin Ameliorates Kidney Function and Oxidative Stress in Experimental Chronic Kidney Disease

Badreldin H. Ali<sup>1</sup>, Suhail Al-Salam<sup>2</sup>, Yousuf Al-Suleimani<sup>1</sup>, Jamila Al-Kalbani<sup>1</sup>, Shadia Al-Bahlani<sup>2</sup>, Mohammed Ashique<sup>1</sup>, Priyadarsini Manoj<sup>1</sup>, Bushaina Al-Dhahli<sup>3</sup>, Nadia Al-Abri<sup>4</sup>, Heba T. Naser<sup>2</sup>, Javed Yasir<sup>2</sup>, Abderrahim Nemmar<sup>6</sup>, Mohammed Al-Za'abi<sup>1</sup>, Christina Hartmann<sup>7</sup> and Nicole Schupp<sup>7</sup>



# Meriva®: the two kidney studies

Università di Milano (prof.ssa Soldati). Chronic kidney disease; oxidative stress; inflammatory biomarkers, modulation of microbiota (2022)



ONE STUDY IN CHRONIC KIDNEY DISEASE (CKD)

ONE STUDY IN TEMPORARY KIDNEY DYSFUNCTION (TKD)



Università di Chieti (Belcaro) – microalbuminuria and macroalbuminuria (2018)





**Temporary Kidney Dysfunction (TKD) is a transient condition that involves the alteration of parameters of kidney functionality**

**TEMPORARY KIDNEY DYSFUNCTION (TKD):  
SUPPLEMENTATION WITH MERIVA® IN INITIAL,  
TRANSIENT KIDNEY MICRO-MACRO ALBUMINURIA**

A LEDDA, Gianni BELCARO, Beatrice FERAGALLI, Morio HOSOI, M CACCHIO,  
Roberta LUZZI, Mark DUGALL, Roberto COTELLESE

*Panminerva Medica 2018 Nov 27*  
DOI: 10.23736/S0031-0808.18.03575-9

Article type: Original Article

© 2018 EDIZIONI MINERVA MEDICA

**MAIN SYMPTOMS**

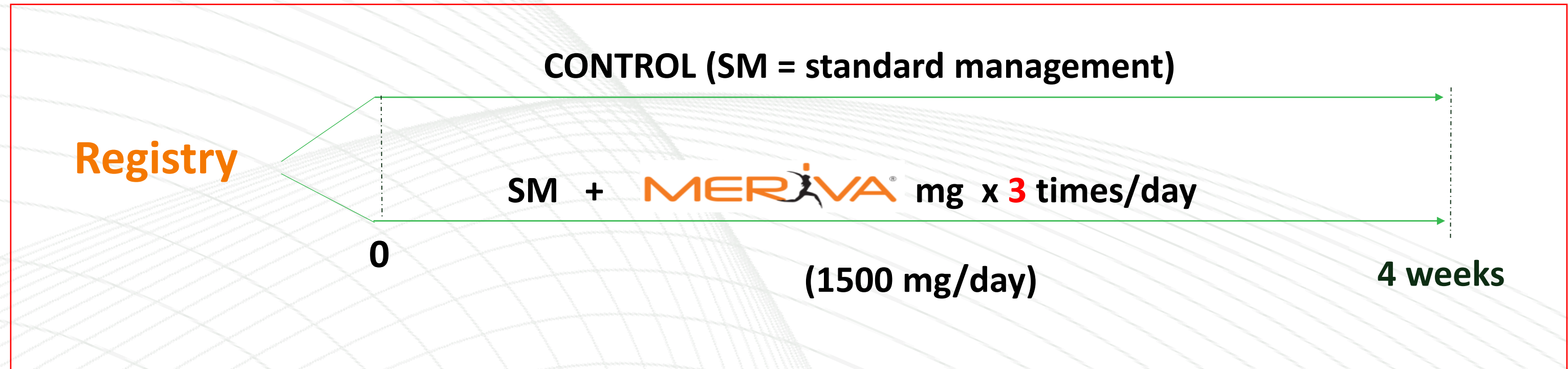
- Albuminuria
- Elevated creatine plasma levels
- Proteinuria
- Fatigue



**MAIN CAUSES**

- Drugs side effects (i.e. ibuprofen, aspirin, paracetamol, steroids, NSAIDs, antibiotics, anti-hypertensive agents such as ACE-inhibitors)
- Diseases (i.e. DIABETES, HYPERTENSION, polycystic kidney)
- Genetic alterations
- Infections

# Outline of the study



## STUDY POPULATION:

87 asymptomatic, mild-hypertensive young (< 60 years) subjects under single medication with ACE-inhibitors.



## STANDARD MANAGEMENT:

- ✓ full hydration
- ✓ reduction and controlled salt intake
- ✓ controlled protein intake
- ✓ abolition of potentially nephrotoxic drug
- ✓ Exercise program and weight control plan



## End points

### OBJECTIVES

Albuminuria (Micro- and macro)

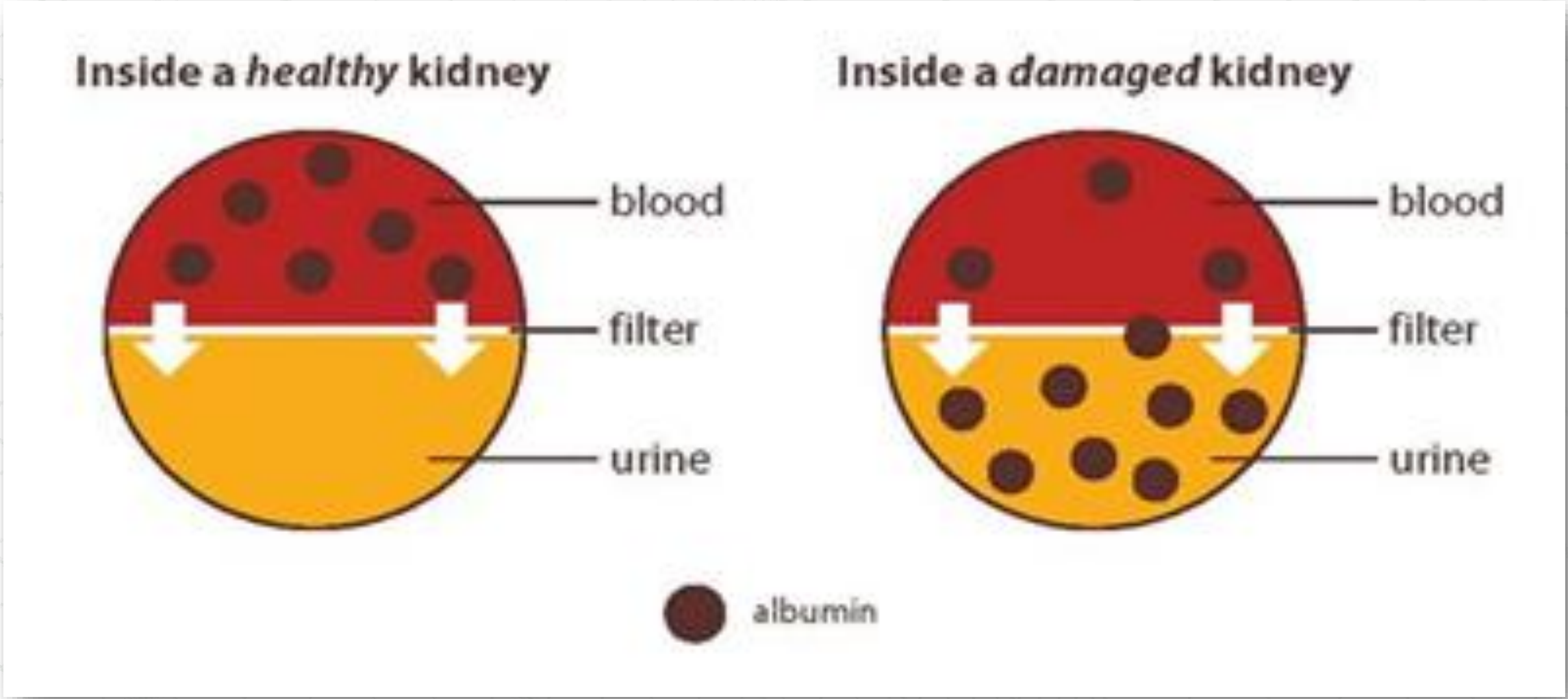
Oxidative stress

### SUBJECTIVES

Fatigue

# Albuminuria and kidney function

**ALBUMINURIA** refers to an abnormal excretion rate of the plasmatic protein *albumin*

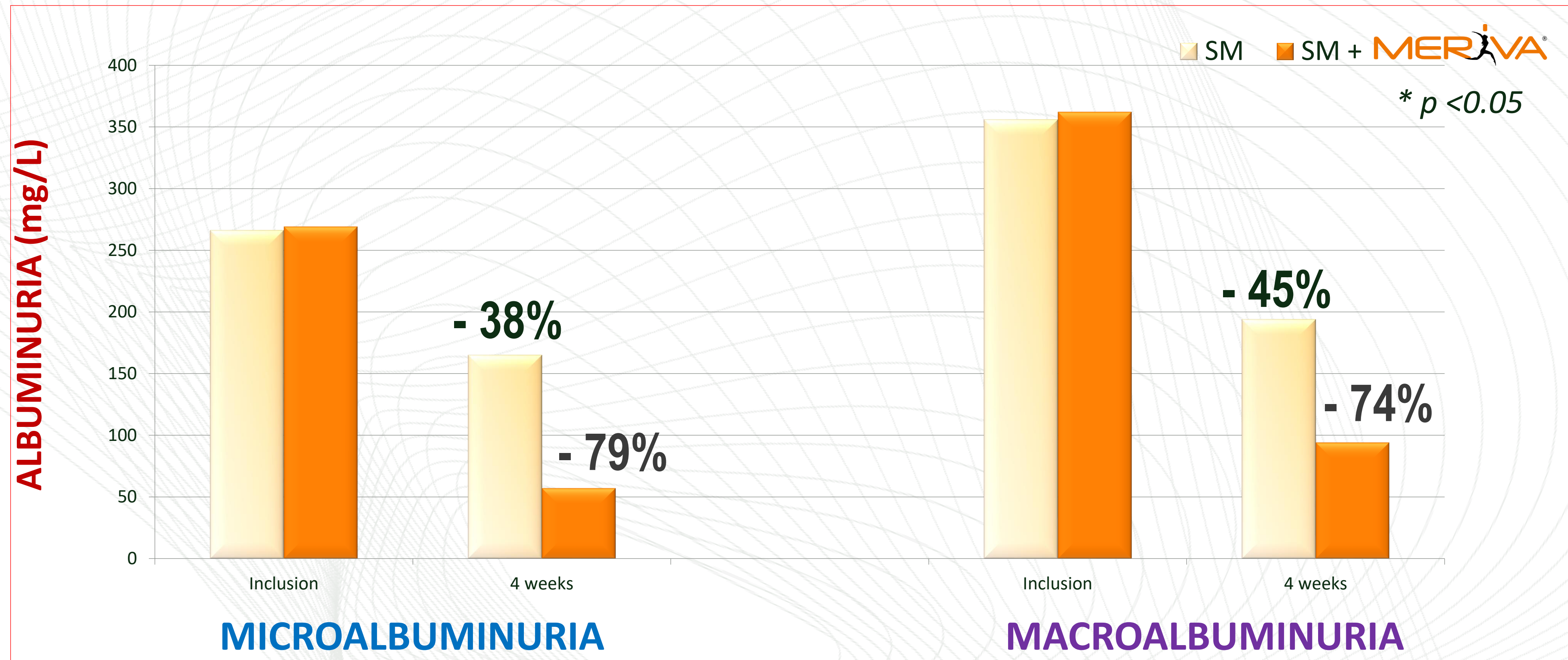


	NORMAL	MICRO-ALBUMINURIA	MACRO-ALBUMINURIA
AER (Albumin Excretion Rate)	< 30 mg/24h	30-300 mg/24h	> 300 mg/24h

The addition of





to the standard management increased its efficacy



# The Chronic Kidney Disease study














- CKD is a pathological condition due to the progressive loss of renal function. From early-stage to end-stage renal disease (ESRD), CKD reaches **13.4% in worldwide prevalence**.
- CKD is widely-recognized **as one of the most relevant risk factors** for developing cardiovascular diseases (CVDs).

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*Article*

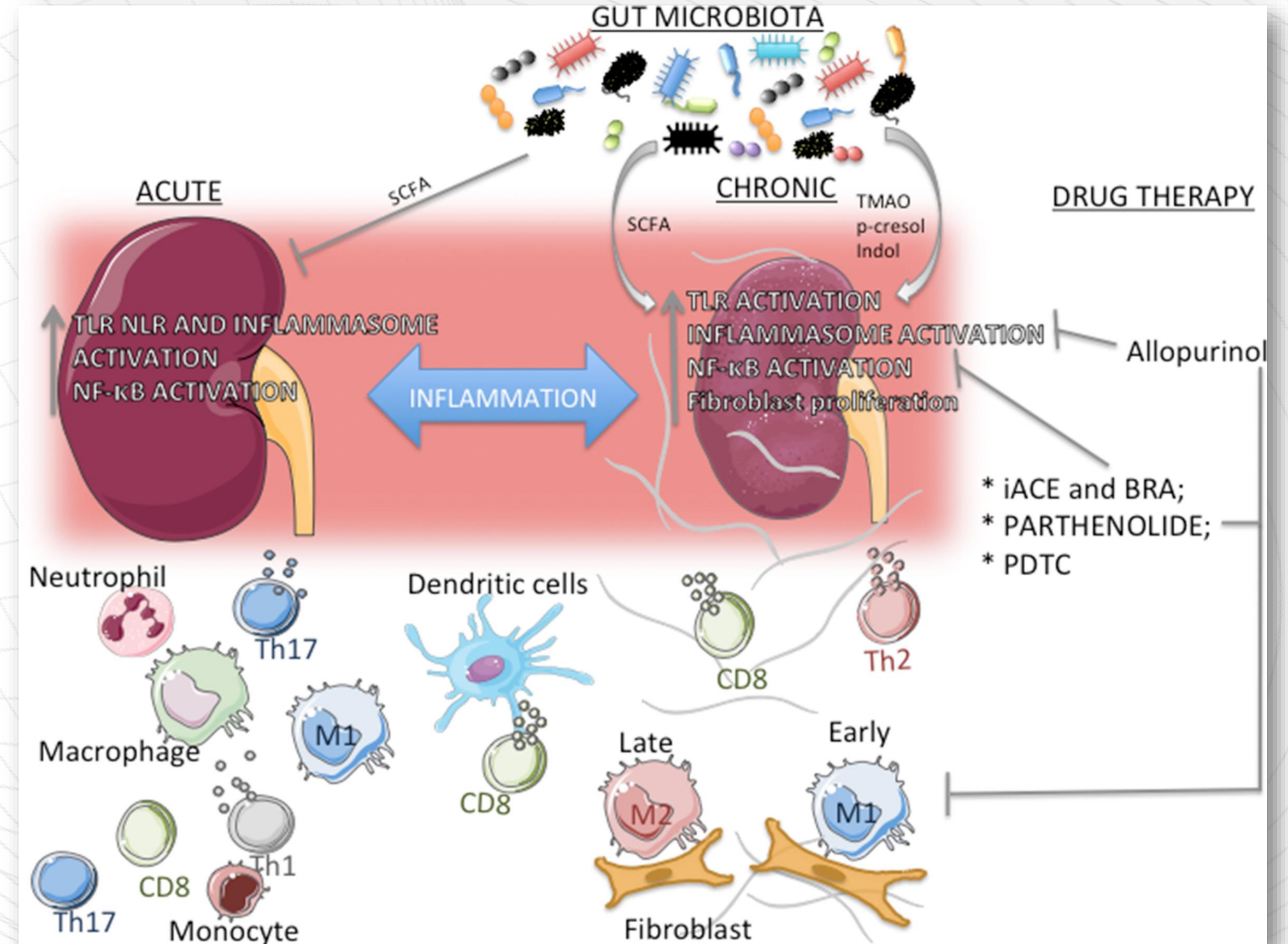
## Curcumin Supplementation (Meriva®) Modulates Inflammation, Lipid Peroxidation and Gut Microbiota Composition in Chronic Kidney Disease

Francesca Pivari <sup>1,\*</sup>, Alessandra Mingione <sup>1,†</sup>, Giada Piazzini <sup>1</sup>, Camilla Ceccarani <sup>2</sup>,  
 Emerenziana Ottaviano <sup>3</sup>, Caterina Brasacchio <sup>4</sup>, Michele Dei Cas <sup>5</sup>, Margherita Vischi <sup>6</sup>,  
 Mario Gennaro Cozzolino <sup>4,6</sup>, Paolo Fogagnolo <sup>4,7</sup>, Antonella Riva <sup>8</sup>, Giovanna Petrangolini <sup>8</sup>,  
 Luigi Barrea <sup>9</sup>, Laura Di Renzo <sup>10</sup>, Elisa Borghi <sup>3</sup>, Paola Signorelli <sup>1</sup>, Rita Paroni <sup>5</sup> and Laura Soldati <sup>4,\*</sup>

Nutrients 2022, 14, 231. <https://doi.org/10.3390/nu14010231>

# How Chronic Kidney Disease develops

- **Inflammation and oxidative stress** have been claimed to play a major role.
- **Changes in the composition of the intestinal microbial population (GM)** have been implicated in the pathogenesis of systemic inflammatory state, CKD progression, and CKD-related cardiovascular complications.
- **The GM consistently changes over the course of CKD**, inducing a metabolic burden that could further increase the cardiovascular risk of CKD patients.



Inflammation and oxidative stress can recruit immune system players, and activate pathways that involve TLR, the inflammasome, and NF-κB. The profile of the gut microbiome can either prolong or inhibit inflammatory activities.

# Outline of the study



## STUDY POPULATION AND TREATMENT:

24 CDK patients (> 18 years) under conservative therapy.  
Overweight (average BMI =27.19 Kg/m<sup>2</sup>)

Meriva® 500 mg twice in a day for 3 - 6 months

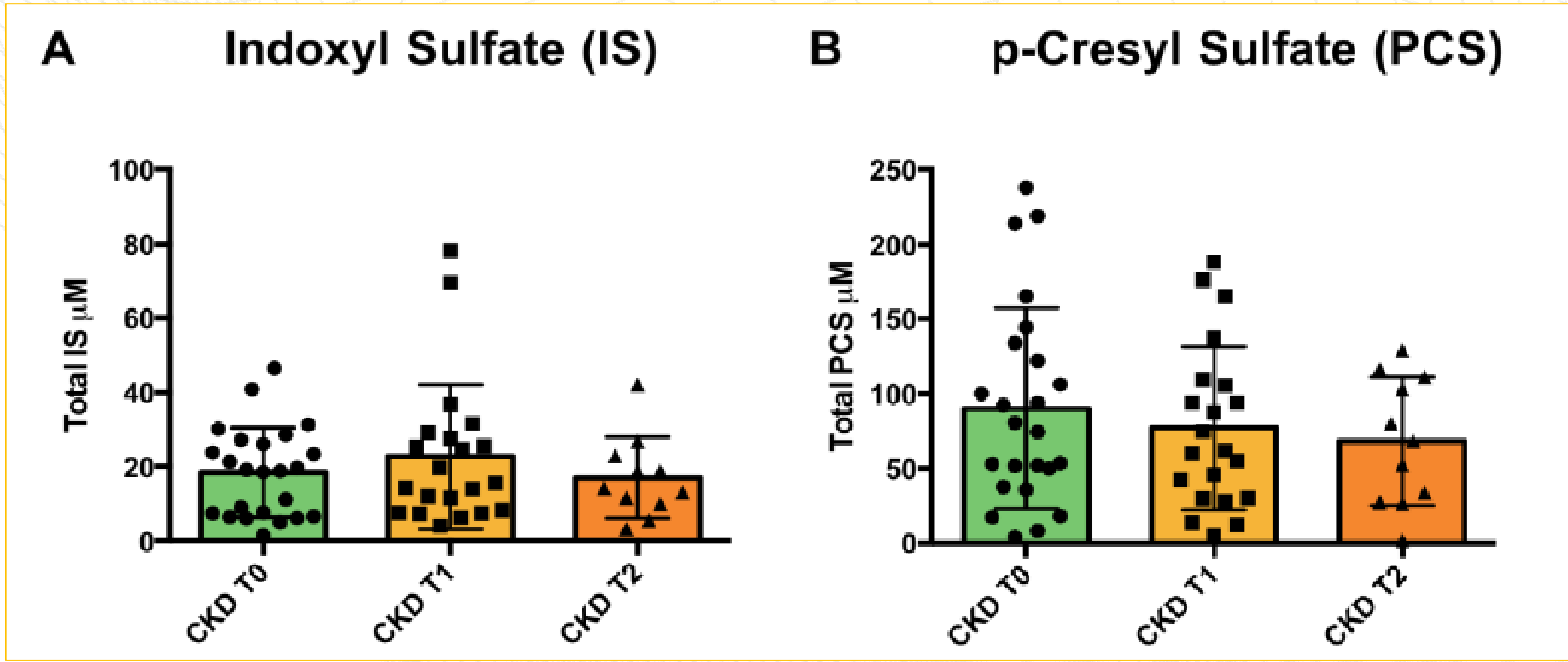
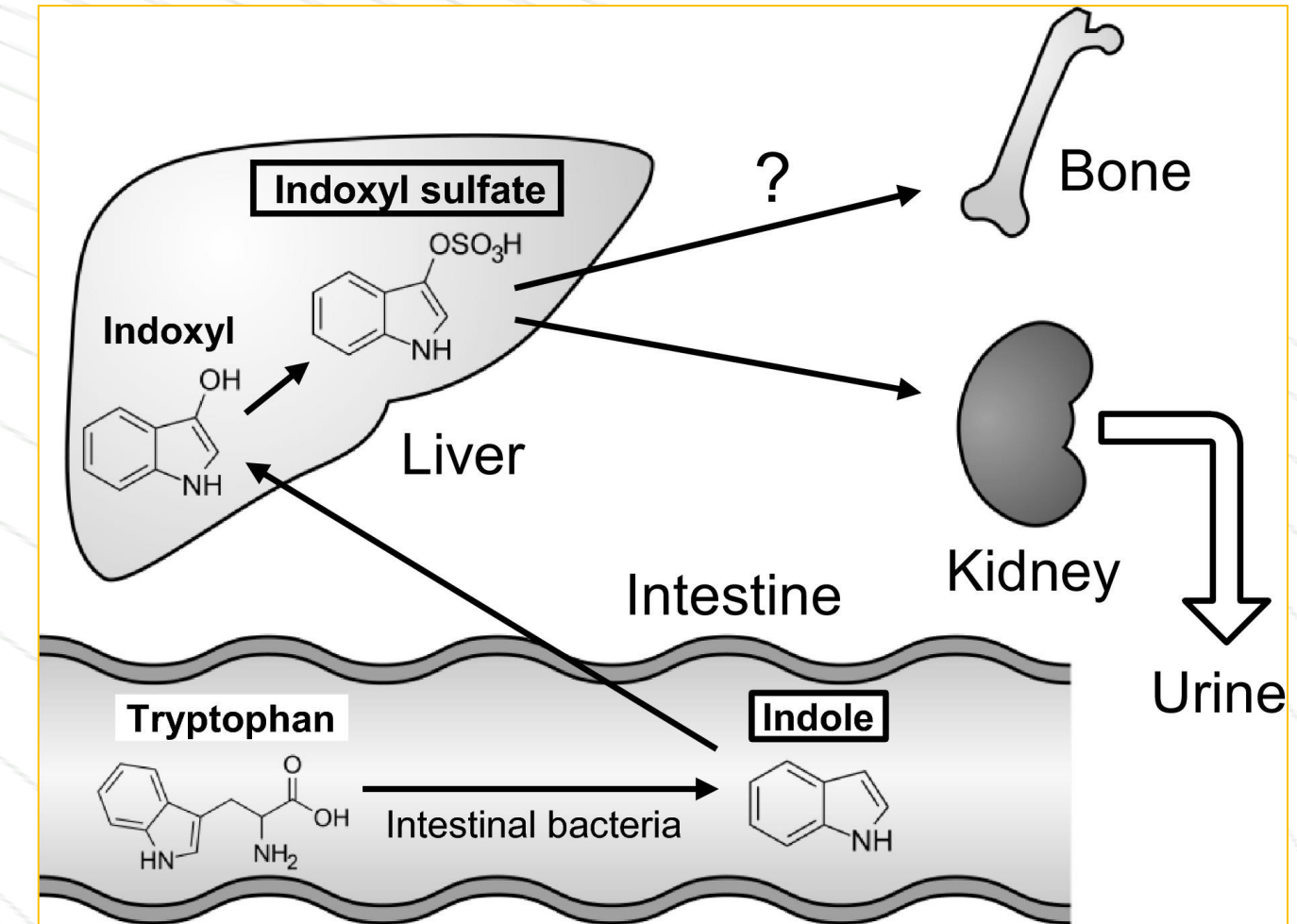


## END-POINTS AT 3 AND 6 MONTHS

- Serum creatinine
- Azotemia
- Sodium
- Potassium
- Calcium
- Phosphorous
- GFR (CKD-EPI formula).
- Anthropometric data
- Inflammation and lipid peroxidation
- Gut microbiota (stool collection)

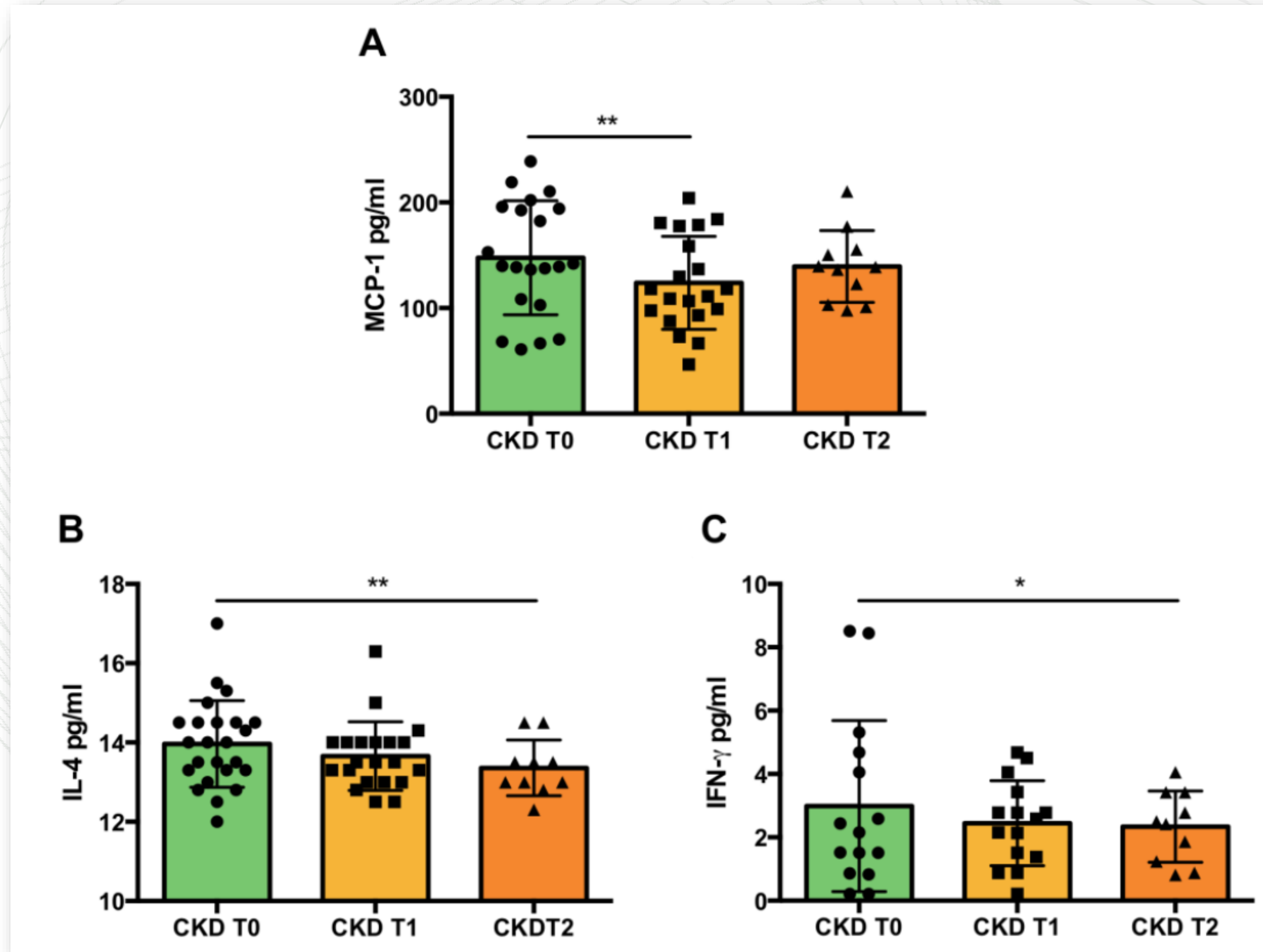
# End-point 1: kidney functionality and uremic toxins

<p>Creatininemia (mg/dL) ↓</p> <p>GFR (ml/min/1.73 m<sup>2</sup>) ↑</p>	<p>0.80 (0.70–1.00)</p> <p>83.0 (70.0–91.0)</p>	<p>1.96 (1.46–2.73)</p> <p>33.5 (22.1–39.8)</p>	<p>1.90 (1.57–2.80)</p> <p>27.2 (21.0–45.5)</p>	<p>1.45 (1.48–2.50)</p> <p>35.7 (24.0–45.0)</p>
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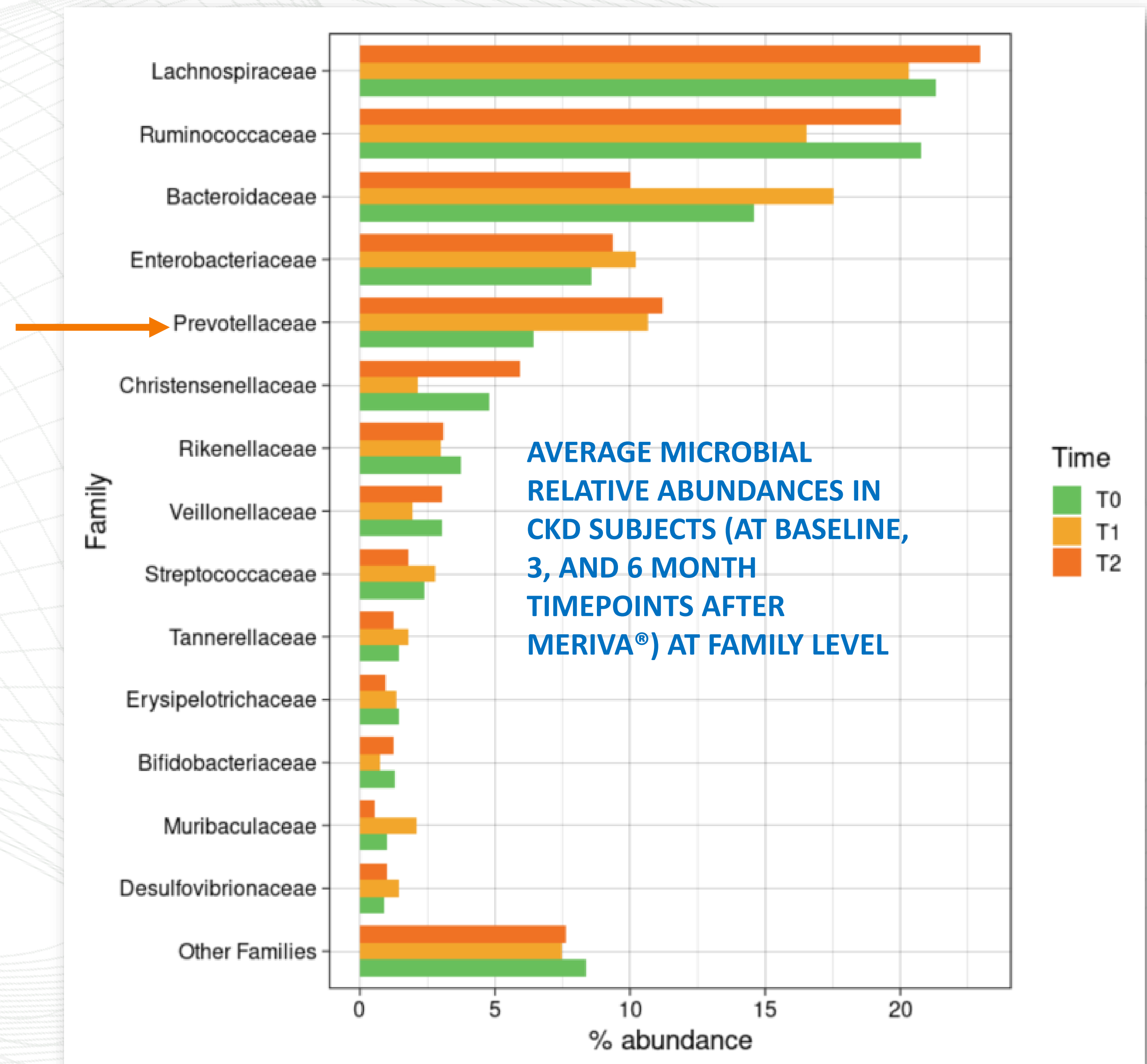
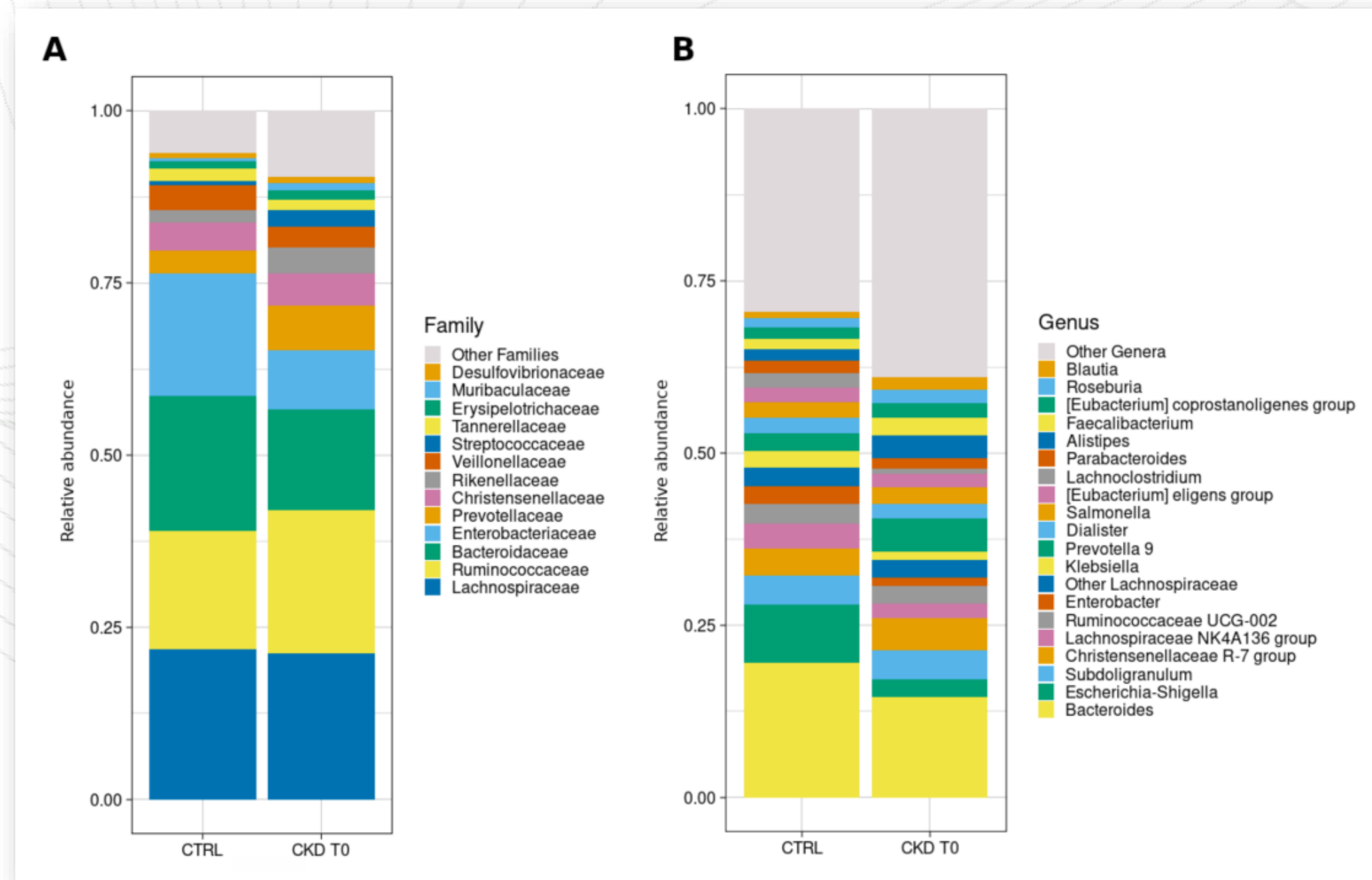




# End-point 2: plasma markers of inflammation



# End-point 3: Microbiota profile - a

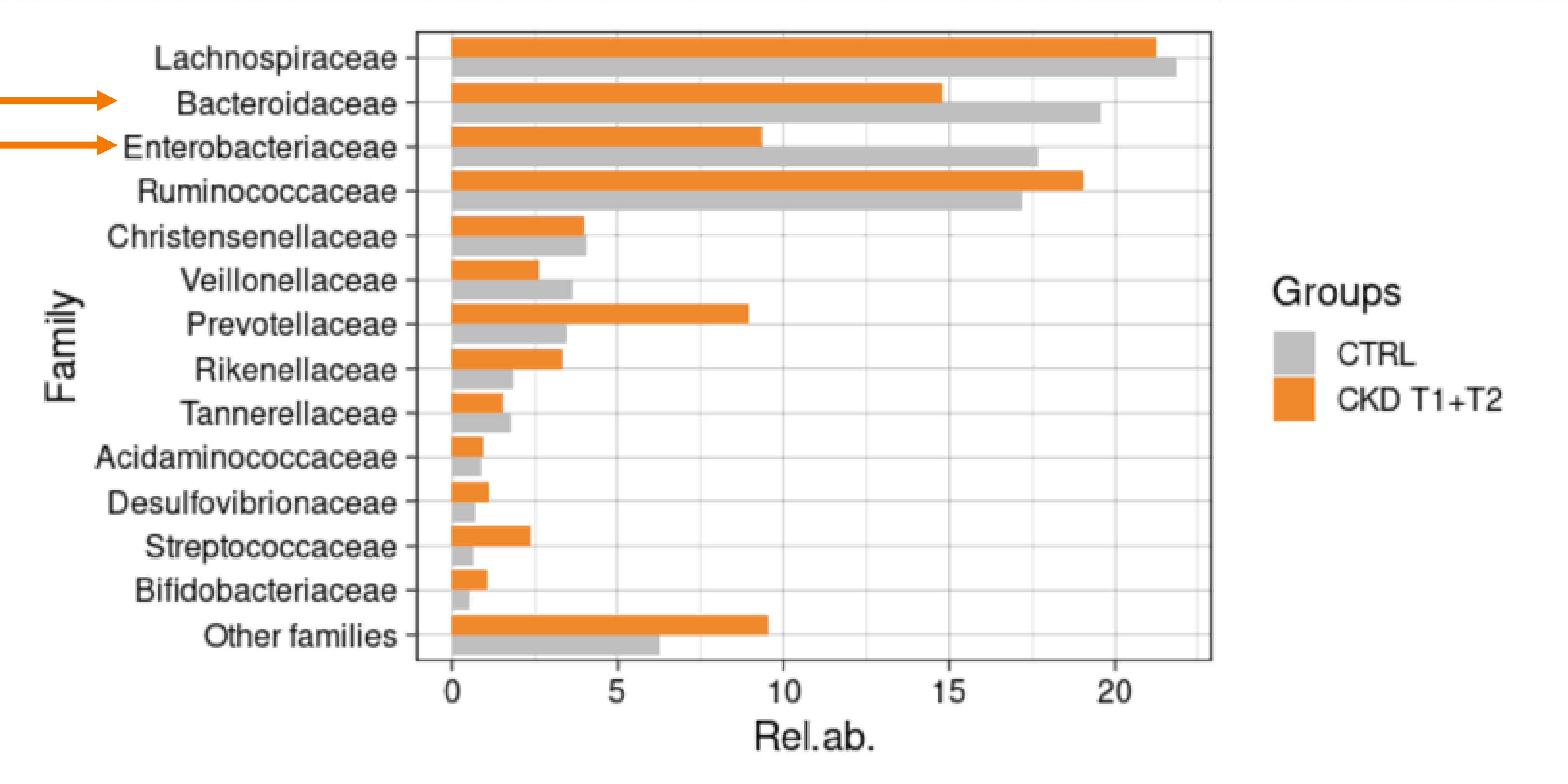


Microbiota profile at family (left) and genus (right) level in healthy control and the CKD group

# End-point 3: Microbiota profile - b



AVERAGE MICROBIAL RELATIVE ABUNDANCES IN HEALTHY AND CKD SUBJECTS (AT 3 AND 6 MONTH TIMEPOINTS AFTER MERIVA®, COMBINED) AT FAMILY LEVEL



# MERIVA<sup>®</sup> and kidney health: the take home message

Addition of Meriva<sup>®</sup> to best standard management, including dietary conservative therapy:

- a) significant decreased albuminuria, oxidative stress and fatigue
- b) statistically decreased the plasma markers of inflammation, with a significant trend toward the decrease of uremic toxins
- c) improved anthropometric parameters
- d) remodulated the microbiota composition at family level (i.e Lactobacillaceae increase), making it more similar to the one of healthy population

# Chronic degenerative diseases are multifactorial, and curcumin as Meriva® addresses this multifactoriality



JOINT AND BONE HEALTH: 4



EYES DISORDERS: 6



SPORTS NUTRITION: 2



DIAGNOSTIC AGENT: 1



DRUGS INTERACTION: 1



CARDIOVASCULAR HEALTH: 1



LIVER HEALTH: 2



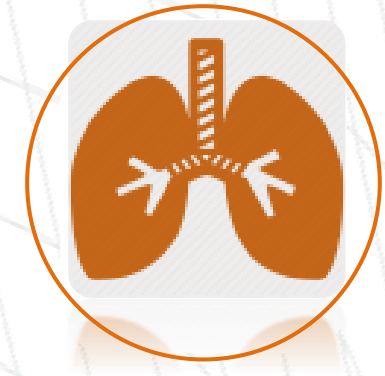
DIABETES: 3



HEALTHY AGING: 1



NEUROPATHIES: 2



RESPIRATORY HEALTH: 1



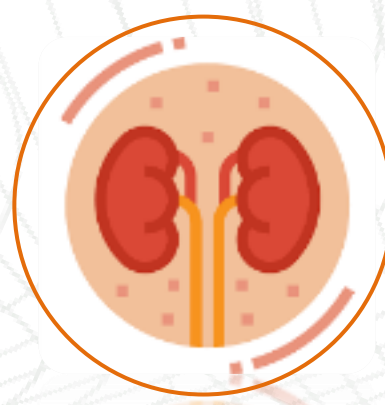
PAIN MANAGEMENT: 1



GUT HEALTH: 2



PROSTATE HEALTH (BPH): 1



KIDNEY HEALTH: 2



SKIN DISORDERS: 2



SUPPORTIVE CARE: 7  
20



SCIENCE IS OUR NATURE. SINCE 1921



See you at  
Stand E84



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