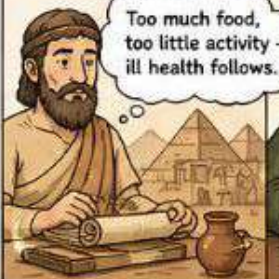


EVOLUTION AND HISTORY OF OBESITY AND CKD

From ancient observations to modern science – understanding a growing global challenge

1. ANCIENT TIMES (~3000 BCE–500 CE)

Ancient texts from India, China, Greece describe “corpulent people” and links with early diseases.



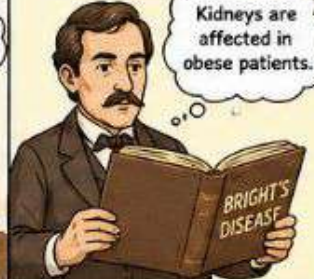
2. MIDDLE AGES – EARLY MODERN ERA (500–1800)

Obesity recognized as a risk for “dropsy”, diabetes (Mellitus), and kidney problems.



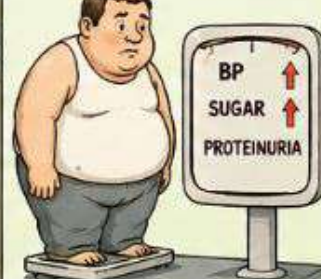
3. 19TH CENTURY (1800–1900s)

Clinical descriptions of Bright’s disease and “fatty degeneration” appear in medical literature.



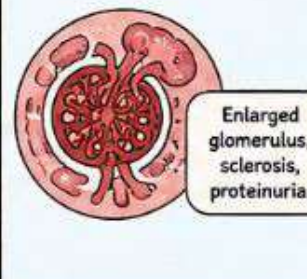
4. MID-20TH CENTURY (1950s–1970s)

Rise in obesity worldwide. Early studies show obese individuals have high blood pressure, diabetes and protein in urine.



5. 1980s–1990s

Nephrologists observe “hyperfiltration” in obesity. Biopsy studies describe Obesity-Related Glomerulopathy (ORG) with FSGS-like changes.



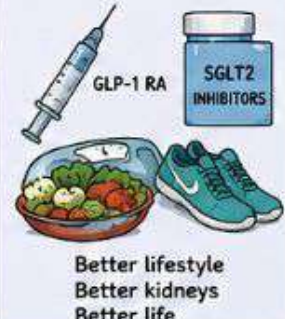
6. 2000s–2010s

Large population studies prove obesity is an independent risk factor for CKD and ESRD. Global epidemic recognized.



7. 2020s AND BEYOND

New era of therapies and precision care. Focus on prevention, weight loss, and kidney protection.



ANCIENT

MEDIEVAL

19TH CENTURY

MID-20TH CENTURY

1980s–1990s

2000s–2010s

2020s+

HOW OBESITY HURTS THE KIDNEYS – THE EVOLUTION OF UNDERSTANDING

EARLY CHANGE

Weight gain leads to increased kidney size and blood flow.



Hyperfiltration

Initially adaptive

PERSISTENT STRESS

High pressure inside glomeruli damages the filter.



Glomerular Hypertension

STRUCTURAL INJURY

Overtime, the filter gets scarred (FSGS-like lesions) and nephrons are lost.



Healthy Glomerulus Sclerotic Glomerulus

Sclerosis & Nephron loss

CLINICAL MANIFESTATIONS

Protein in urine, high BP, declining kidney function.



CKD Progression

COMPLICATIONS

Higher risk of ESRD, cardiovascular disease, and death.



High Morbidity & Mortality

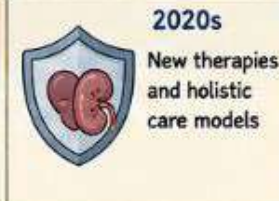
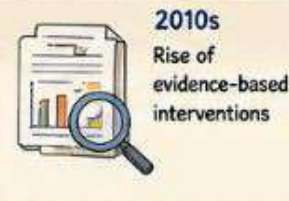
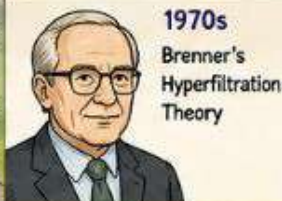
TURNING THE TIDE

Weight reduction, metabolic control and kidney-protective drugs can slow or reverse the damage.



Hope for the Future

KEY MILESTONES IN THE JOURNEY



THE STORY CONTINUES...

Science evolves. So does our hope to protect kidneys for generations.

