

Abbreviations

as they appear in the manuscript

MetS: metabolic syndrome

T2DM: type 2 diabetes mellitus

CCVD: cerebrocardiovascular disease

IR: insulin resistance

LR: leptin resistance

HTN: essential hypertension

NCEP ATP III: National Cholesterol Education Panel Adult Treatment Panel III

VAT: visceral-omental adipose tissue

*p*CC: peripheral cytokines/chemokines

IFG: impaired fasting glucose

IGT: impaired glucose tolerance

aMt: aberrant mitochondria

ROS: reactive oxygen species

HCY: homocysteine

HHCY: hyperhomocysteinemia

FOCM: folate one-carbon metabolism

eNOS: endothelial nitric oxide synthase

NO: nitric oxide

ecGCx: endothelial glycocalyx

RONSS: reactive oxygen, nitrogen, sulfur, species

RSI: reactive species interactome

PAMPS: pathogen-associated molecular patterns

LPS: lipopolysaccharide

RAAS: renin-angiotensin-aldosterone-system

SNS: sympathetic nervous system

VaD: vascular dementia

HBK: heart-brain-kidney axis

PAI-1: plasminogen activator-1
BIR: brain insulin resistance
UA: uric acid
FFAs: free fatty acids
WAT: white adipose tissue
DIO: diet induced obesity
TEM: transmission electron microscopy
LC n-3PUVA: long-chain n-3 polyunsaturated fatty acids
CHD: coronary heart disease
RNAs: ribonucleic acids
ER: endoplasmic reticulum
ISGs: insulin secretory granules
ATP: adenosine triphosphate
ETC: electron transport chain
UCP2: uncoupling protein-2
HIP: human islet amyloid polypeptide
AGE: advanced glycation end products
RAGE: receptor for AGE
NF- κ B: nuclear factor-kappa B
 $\cdot\text{O}_2^-$: superoxide
mtROS: mitochondrial reactive oxygen species
DNA: deoxyribonucleic acid
MS: methionine synthase
SAM: S-adenosylmethionine
MTHF: methyltetrahydrofolate
EC*act*: endothelial cell activation
EC*dys*: endothelial cell dysfunction
ECM: extracellular matrix
BEC(s): brain endothelial cells
BM: basement membrane

ACfps: astrocyte foot processes

Pcs: pericytes

Pcfp: pericyte foot processes

TJ/AJs: tight junctions/adherens junctions

PVAT: perivascular adipose tissue

PVAT-dEVexos: perivascular adipose tissue-derived extracellular vesicle exosomes

PVATM Φ -dEVexos: perivascular adipose tissue macrophage-derived extracellular vesicle exosomes

miRNAs: micro ribonucleic acids

lncRNAs: long-non-coding ribonucleic acids