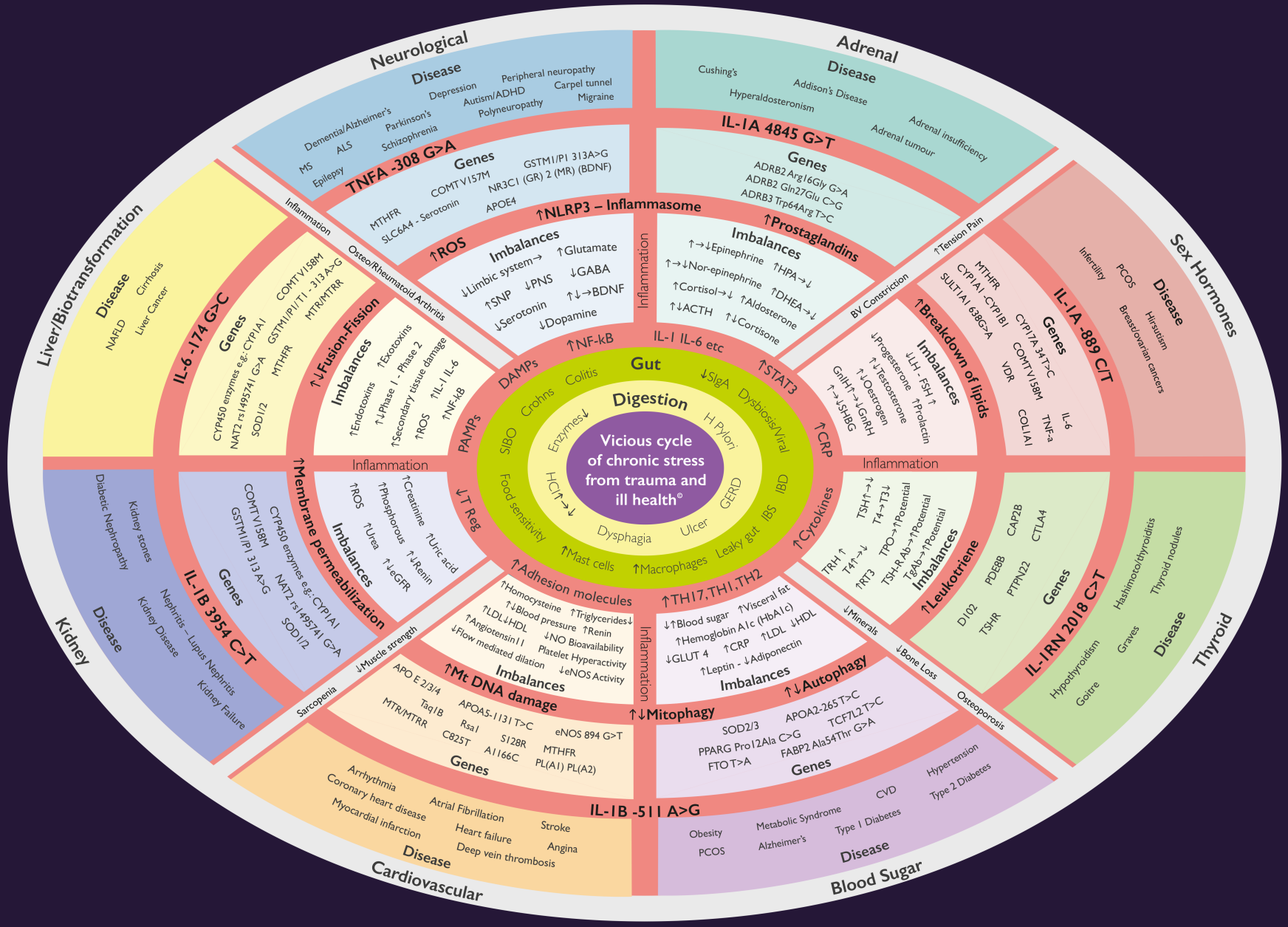
Vicious cycle of chronic stress from trauma and ill health©
Digestion
Gut
Enzymes↓
HCl↑↓
SIBO
Crohns
Colitis
Food sensitivity
Dysphagia
Ulcer
Leaky gut
IBS
IBD
GERD
H Pylori
↓SIgA
Dysbiosis/Viral
↑Mast cells
↑Macrophages
DAMPs
PAMPs
↑NF-kB
IL-1 IL-6 etc
↑STAT3
↑CRP
↑Cytokines
↓T Reg
↑Adhesion molecules
↑Homocysteine ↑Triglycerides↓
↓↑Blood pressure ↑Renin
↑LDL↓HDL ↓NO Bioavailability
↑Angiotensin II Platelet Hyperactivity
↓Flow mediated dilation ↓eNOS Activity
↑TH17,TH1,TH2
↓↑Blood sugar ↑Visceral fat
↑Hemoglobin A1c (HbA1c)
↓GLUT 4 ↑CRP ↑LDL ↓HDL
↑Leptin - ↓Adiponectin
Imbalances
↑↓Autophagy
↑Mt DNA damage
Imbalances
↑↓Mitophagy
Genes
APO E 2/3/4
Taq1B
MTR/MTRR
APOA5-1131T>C
Rsa1
C825T
S128R
A1166C
eNOS 894 G>T
MTHFR
PL(A1) PL(A2)
SOD2/3
PPARG Pro12Ala C>G
FTO T>A
APOA2-265T>C
TCF7L2 T>C
FABP2 Ala54Thr G>A
Genes
IL-1B -511 A>G
Disease
Arrhythmia
Coronary heart disease
Myocardial infarction
Atrial Fibrillation
Heart failure
Deep vein thrombosis
Stroke
Angina
Cardiovascular
Obesity
PCOS
Metabolic Syndrome
Alzheimer's
CVD
Type 1 Diabetes
Hypertension
Type 2 Diabetes
Disease
Blood Sugar
Sarcopenia
↓Muscle strength
↓Minerals
↓Bone Loss
Osteoporosis
Inflammation
Imbalances
↑Membrane permeabilization
↑Creatinine ↑Uric acid
↑Phosphorous ↓Renin
↑ROS ↑Urea ↓eGFR
Genes
CYP450 enzymes e.g.: CYP1A1
COMT V158M
GSTM1/P1 313 A>G
NAT2 rs1495741 G>A
SOD1/2
IL-1B 3954 C>T
Kidney
Disease
Diabetic Nephropathy
Kidney stones
Nephritis – Lupus Nephritis
Kidney Disease
Kidney Failure
Inflammation
Imbalances
↑↓Fusion-Fission
↑Endotoxins ↑Exotoxins
↑↓Phase I - Phase 2
↑Secondary tissue damage
↑ROS ↑IL-1 IL-6
↑NF-kB
Genes
CYP450 enzymes e.g.: CYP1A1
NAT2 rs1495741 G>A
SOD1/2
COMT V158M
GSTM1/P1/T1 - 313 A>G
MTHFR
MTR/MTRR
IL-6 -174 G>C
Liver/Biotransformation
Disease
NAFLD
Cirrhosis
Liver Cancer
Osteo/Rheumatoid Arthritis
Inflammation
Imbalances
↑ROS
↓Limbic system→ ↑Glutamate
↑SNP ↓PNS ↓GABA
↓Serotonin ↑↓→BDNF
↓Dopamine
Genes
MTHFR
COMT V158M
GSTM1 313A>G
NR3C1 (GR) 2 (MR) (BDNF)
APOE4
SLC6A4 - Serotonin
TNFA -308 G>A
Neurological
Disease
Dementia/Alzheimer's
MS
ALS
Epilepsy
Parkinson's
Schizophrenia
Depression
Autism/ADHD
Polyneuropathy
Peripheral neuropathy
Carpel tunnel
Migraine
Inflammation
Imbalances
↑Prostaglandins
↑→↓Epinephrine ↑HPA→↓
↑→↓Nor-epinephrine ↑DHEA→↓
↑Cortisol→↓ ↑Aldosterone
↑↓ACTH ↑↓Cortisone
Genes
ADRB2 Arg16Gly G>A
ADRB2 Gln27Glu C>G
ADRB3 Trp64Arg T>C
IL-1A 4845 G>T
Adrenal
Disease
Cushing's
Hyperaldosteronism
Addison's Disease
Adrenal insufficiency
Adrenal tumour
↑Tension Pain
BV Constriction
Inflammation
Imbalances
↑Breakdown of lipids
↓Progesterone
↑↓Testosterone
↑↓Oestrogen
↑↓→↓GnRH
GnIH↑→↓SHBG
↓LH - FSH ↑
↑Prolactin
Genes
MTHFR
CYP1A1 -CYP1B1
SULT1A1 638G>A
CYP17A 34T>C
COMT V158M
VDR
COL1A1
IL-6
TNF-a
IL-1A -889 C/T
Sex Hormones
Disease
Infertility
PCOS
Hir-autism
Breast/ovarian cancers
Inflammation
Imbalances
↑Leukotriene
TSH↑→↓
T4→T3↓
TPO→↑Potential
TSH-R Ab→↑Potential
TgAb→↑Potential
TRH ↑
T4↑→↓
↑RT3
Genes
CAP2B
CTLA4
PDE8B
PTPN22
D102
TSHR
IL-1RN 2018 C>T
Thyroid
Disease
Hashimoto/thyroiditis
Thyroid nodules
Hypothyroidism
Graves
Goitre

Leonie Ash©