

PART I

- co-inherited RCCX gene mutations lead to overlapping genetic diseases / syndromes in families and individuals (note TNXB associated with varying degrees of hypermobility, from none to EDS-HT)

• 21 Hydroxylase Overwhelm → chronic psychiatric + medical illness.

CYP21A2 MUTATION

→ **CAPS (CYP21A2 MUTATION ASSOCIATED NEURO-PSYCHIATRIC SPECTRUM)**

BRAIN WIRED FOR DANGER / THREAT.

wiring due to spiking cortisol + androgens in utero and in infancy
some "autistic features" if severely affected.

- Big Amygdala (emotion / fear)
- primed threat circuits
- dysautonomia - fight or flight
- ↑ orienting → hyperfocus, obsessive special interests
- ↑ Arousal / ↑ Acute stress response → Anxiety
- ↑ Threat detection - ↑ pattern recog. } "turbo" superior info processing urgency read faces, feel others' emotions
- social pathways less primed
- high intensity emotions
- men = ↑ progesterone
women = ↑ testosterone / androgens } Androgenized.
- HIGH RISK FOR PTSD, all other psych disorders with bad experiences.

→ **ACUTE STRESS** (worse with hypermobility)

- ↑ cortisol → ↑ arousal with small events
- ↑ sympathetic NS → ↓ gut motility, TMR, dilated pupils, livedo reticularis
- ↑ Anxiety / Insomnia / Arousal

→ **CHRONIC STRESS** (infection, PTSD from CAPS, HORMONAL SHIFT (via 21 Hydroxylase overwhelm))

- ↓↓ Basal cortisol (but still ↑ cortisol = stress response often)
- ↓↓ Aldosterone ↓ blood volume ↓ Na⁺ ↑ sympathetic NS
- ↑↑ progesterone syndrome (17 hydrox P)
- ↑ mast cell activation (TCRH, ↑ prostag, immune system dysreg, ↑ estrogen, ↑ opioids, stress)
- Chronic pain syndrome
- Chronic fatigue syndrome
- Fibromyalgia
- Chronic Lyme
- ↑ Brain Inflammation (microglia) → psychosis, brain fog, mood lto anxiety.
- ↑ intracranial pressure / acquired ch.ARI
- ↑ POTS
- ↑↑ Androgens
- ↑ GI: inflammation, dysbiosis, malabsorption, SIBO

women + people with TNXB hypermobility possibly more affected due to orthostatic stress

PART II

CAPS $\xrightarrow{\text{NEG EVENTS}}$ PTSD

21 Hydroxylase overwhelm

mitochondrial shutdown
DAUER

(NAVIAUX MD PhD)