CHECKLIST: FABRY DISEASE?

# FOCUS ON NEPHROLOGY

# COULD IT BE FABRY DISEASE? Focus on Nephrology

## Symptoms/Findings

- ☐ **Microalbuminuria/ albuminuria**
- ☐ **Podocyturia → Proteinuria (>300 mg/day)**
- ☐ **GFR decrease (GFR <60 mL/ min/1.73 m²)**
- ☐ Oedemas in the hands and feet → Note relationship between leg oedema and protein excretion
- ☐ Parapelvic renal cysts
- ☐ Progressive renal failure
- ☐ Dialysis
- ☐ Rare: renal tubular acidosis and nephrogenic diabetes insipidus

## Diagnostics

- ☐ Renal function test: GFR from creatinine and urea clearance, serum creatinine (mg/dL), GFR (mL/min/1.73 m²) → Serum analysis, semi-quantitative protein or albumin using test strips, UPC, UAC → Spontaneous urine total protein, albumin, GFR from creatinine and urea clearance → 24-hour urine
- ☐ Renal ultrasound (morphology, vascular lesions, cysts)
- ☐ 24-hour blood pressure measurement
- ☐ Renal biopsy if necessary (evaluation of GL-3 deposits, fibrosis, and sclerosis) → Discuss light microscopy using toluidine blue stain with Pathology

**Fabry disease possible →**

## Patient's Medical History

Any signs of kidney failure such as uraemia or hypocalcaemia?

## Family Medical History

Any signs of kidney failure such as uraemia or hypocalcaemia in relatives?

Unexplained incidents of death in the family?

**Fabry disease probable →**

## Fabry Diagnosis

Dry blood test determining:

- The genetic mutation
- The level of α-galactosidase A (α-Gal A) activity
- The biomarker lyso-$Gb_3$

**and/or**

Molecular genetic/ cytogenetic Fabry diagnosis from:

- EDTA blood test
- Serum
- Buccal swab

Engagement of an expert centre for conclusive diagnosis. In the event of confirmed Fabry disease diagnosis, further monitoring of progress and organ screening is recommended.

Note: this listing of symptoms/ findings and diagnostic tests may not be all-inclusive.

EDTA, ethylenediaminetetraacetic acid; GFR, glomerular filtration rate; GL-3, globotriaosylceramide; lyso-$Gb_3$, globotriaosylsphingosine; UAC, urine albumin to creatinine ratio; UPC, urine protein to creatinine ratio.

# SIGNS AND SYMPTOMS OF FABRY DISEASE ACROSS ORGAN SYSTEMS

## Nervous System

- **TIA, stroke**
- **Acroparaesthesia**
  → Burning pain in hands and feet
- **Small fibre neuropathy**
- **Pain crises**
- **Dyshidrosis**
- **Temperature intolerance**
- **Gastrointestinal discomfort**
- Basilar ectasia/ectatic vessels (vertebrobasilar)
- White matter lesions
- Depression/fatigue
- Headaches
- Reduced lacrimation and salivation

## Eyes

- **Cornea verticillata**
- **Fabry cataract**
- Corneal opacity
- Vascular anomalies of the conjunctiva
- Vascular tortuosity of the retina
- Optic neuropathy with visual field loss

## Ears

- Hearing loss (often high frequencies)
- Tinnitus
- Dizziness

## Heart

- **Cardiomyopathy/ left ventricular hypertrophy** (without/ mild hypertension)
- Myocardial infarction
- Congestive heart failure
- Intramyocardial fibrosis
- Cardiac arrhythmia
- Valvular disorder (mitral valve, aortic valve)
- Dyspnoea

## Skin

- **Angiokeratomas**
- **Dyshidrosis**
- Telangiectasias

## Quality of Life

- **Reduced physical capacity**
- Psychological problems
- Fatigue
- Pain

## Differential Diagnosis

- Diabetes mellitus
- Hypertension
- Glomerulonephritis
- Systemic lupus erythematosus
- Haemolytic-uraemic syndrome (HUS)
- Gout
- Amyloidosis
- Henoch-Schönlein nephritis

TIA, transient ischaemic attack.

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