

Informations about the mitoFolat study

Folinic acid therapy in children and adolescents with Kearns-Sayre syndrome and cerebral folate deficiency

Dear colleagues,

We would like to draw Your attention to the **mitoFolat study** for children and adolescents with genetically verified **Kearns-Sayre syndrome (KSS)**. The aim of the study is to investigate the clinical effects of high-dose folinic acid therapy in children and adolescents with KSS who have been diagnosed with **cerebral folate deficiency**.

Kearns-Sayre syndrome is a mitochondrial encephalomyopathy characterised by: CPEO (chronic progressive ophthalmoplegia), ptosis, retinitis pigmentosa and onset before the age of 18, PLUS one or more secondary criteria: short stature, endocrine disorders, hearing loss, cerebellar symptoms, cardiac conduction disorders, elevated cerebrospinal fluid protein. In the majority of KSS patients, a reduction in folate metabolites in the cerebrospinal fluid (**secondary cerebral folate deficiency**) can be detected. In the literature, the effects of folate or folinic acid therapy are inconsistent based on individual case observations and small uncontrolled studies.

The **mitoFolat study** is a randomised, controlled, blinded intervention study with a „Delayed-start“ study design involving two parallel groups and a study duration of 18 months (12 months treatment, 6 months observation duration). It is being conducted at eight neuropaediatric centres in Germany. Our goal is to collect the complete data set of 18 children and adolescents. The leading study centre is the *Department of Paediatrics and Adolescent Medicine at University Medical Centre Göttingen (UMG)*.

The inclusion criteria are:

- Age group 6 – 17 years
- Clinically defined Kearns-Sayre syndrome
- Onset of clinical manifestation <12 years
- Identification of one of the mitochondrial DNA defects associated with Kearns-Sayre syndrome (deletions or duplications, point mutations in tRNA genes)
- Decreased 5-methyltetrahydrofolate (5MTHF) concentration in cerebrospinal fluid.

Further details (including the Clinical Trial Protocol) can be found at:

<https://euclinicaltrials.eu/search-for-clinical-trials/?lang=de&EUCT=2023-503730-45-00>.

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Please feel free to contact us directly.

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We are very grateful for Your support.

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