Patient journey SYNGAP1 Developmental and epileptic encephalopathy

EpiCARE

1 ….first symptoms…. 2 ….diagnosis…. 3 ….treatment….. 4 …follow up…

1. FIRST SYMPTOMS

Timeline: First or second year of life (median age of two years)

Clinical signs / Symptoms
- Developmental delay.
- Seizures.
- Autism spectrum disorder symptoms.
- Speech delay.

In most cases, developmental delay is evident before the seizure onset. Absence and myoclonic seizures are the most frequent seizure types. The child might exhibit a delay in acquiring the first socio-relational skills.

Identify patient needs
- Neuropsychiatric and developmental evaluations, also focusing on unveiling possible autistic features.
- Parents need reassurance and basic information about epilepsy and seizures.
- Early start of therapies.

Ideal outcomes/ Support
- Developmental evaluations.
- Neuropsychiatric evaluations with EEG study.
- Early diagnosis of autism spectrum disorder, if present, and potential implementation of alternative communication strategies for speech delay/language disorder.
- Family receives instructions on how handle a seizure if it happens again.
- Support therapy management (psychomotricity, speech therapy).
- Family is explained that the rehabilitation process must be individually tailored according to the age and potential of the child.

2. DIAGNOSIS

Timeline: From the first symptoms and up

Clinical signs / Symptoms
- SYNGAP1-DEE includes developmental delay, cognitive impairment, autism spectrum disorder and other behavioural abnormalities, which can be severe. Gait disorders can be present. Feeding and sleep difficulties are significant in some. Severe speech impairment is a common feature. Gastrointestinal issues might be present as well.
- In most cases individuals experience more than 1 seizure type. Absence and myoclonic seizures are the most frequent. Seizures can be triggered by various stimuli (i.e. eye-closure, chewing, eating). Focal seizures and spasms have also sporadically been reported.
- SYNGAP1 mutations have also been found in individuals with cognitive impairment and no seizures.

Identify patient needs
- Parents need information about the diagnosis.
- Parents need to be offered a genetic test.
- Parents need instructions on how to treat seizures and manage other non-pharmacological therapies their child may require.
- If not previously performed, specific neuropsychological evaluations for autism spectrum disorder should be considered.
- In case of absence of language, it is essential to identify the most suitable communication strategy (i.e. Alternative and Augmentative Communication, etc.)
- Parents need to know state-guaranteed rights and assistance, and how to request it.

Ideal outcomes/ Support
- Genetic counselling.
- Specific neuropsychological evaluations for autism spectrum disorder, if appropriate.
- Professional support is offered to cope with diagnosis.
- Family is informed about rehabilitation options.
- Parents receive guidance on behaviour management and communication tools.
- Parents are informed about state-guaranteed rights and assistance, and how to request it.

3. TREATMENT

Timeline: Lifelong

Clinical signs / Symptoms
- A specific treatment for seizures in SYNGAP1-DEE has not yet been found. Treatment should aim at best possible seizure control and minimal side effects.
- Treatment of non-epileptic symptoms (sleep issues, behaviour disorder, constipation…).

Identify patient needs
- Parents need information on prescribed medication, side effects and how to monitor them.
- Parents need specialist assessment of non-epileptic symptoms.
- A rehabilitation plan (psychomotricity, speech therapy, behavioural therapy), must be defined as soon as possible.
- Tips for the school.
- Parents need professional support.

Ideal outcomes/ Support
- Parent are informed about medication side effects and necessary controls of blood level tests.
- Treatment of non-epileptic symptoms is given.
- Consultation with a developmental paediatrician may guide parents through appropriate behavioural management strategies and/or provide prescription medications when necessary.
- Parents are actively involved with rehabilitation specialists, teachers and personal assistants in sharing and discussing individual educational program.
- Social and psychological support for families is provided.

4. FOLLOW UP

Timeline: From diagnosis lifelong

Clinical signs/Symptoms
- Approximately 60% of patients has refractory epilepsy with ongoing seizures after the use of 2 anti-seizure medications.
- Comorbid conditions: intellectual disability, autism spectrum disorder, behavioural problems, a high pain threshold, eating problems, sleeping problems (with difficulties initiating and maintaining sleep), hypotonia, ataxia, gait abnormalities, orthopaedic abnormalities, and gastrointestinal issues.

Identify patient needs
- Monitoring seizures and development.
- Management and treatment of comorbidities.
- Parents need emotional support.
- Evidence of rehabilitation progress (psychomotricity, speech therapy, behavioural therapy).
- Parents need advice and support in transition to adulthood.

Ideal outcomes/ Support
- Parents receive training for monitoring and managing all possible symptoms.
- Regular reviews with a child neurologist and neuropsychiatrist for monitoring epilepsy and any changes.
- Regular blood tests to check the drug levels.
- Monitoring other potential comorbidities and offering treatment when possible.
- Parents receive emotional support.
- Adjustments of rehabilitation plan (psychomotricity, speech therapy, behavioural therapy). Rehabilitation should aim to increase communication skills and increase autonomy.
- Availability of home care and/or institutional care.
- Transition from paediatric to adult care should be put in place, ideally in a centre with multidisciplinary team available, with provided support to parents during the transition period.

European Reference Network

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