# Agenesis of the Corpus Callosum

Agenesis of the corpus callosum (ACC) is a rare abnormality. It is a partial or complete absence of the corpus callosum. The corpus callosum is an area of the brain. The corpus callosum connects 2 sides of the brain (*cerebral hemispheres*). This abnormality is present at birth (*congenital*).

## SYMPTOMS

The first symptoms of ACC are usually:

- Convulsions (*seizures*). These may be caused by a very common disorder associated with ACC. It is called infantile spasms.
- Feeding problems.
- Delays in being able to:
  - Hold up the head.
  - Stand.
  - Sit.
  - Walk.

Other symptoms may include:

- Impaired mental and physical development.
- Impaired hand-eye coordination.
- Visual and auditory memory problems.
- Buildup of fluid in the brain (*hydrocephaly*).

In mild cases, symptoms may not appear for years. These include:

- Seizures.
- Repetitive speech.
- Headaches.

Female children may also have:

- Aicardi's syndrome. It includes:
  - Severe mental retardation.
  - Lesions of the retina of the eye (*chorioretinal lacunae*).

## DIAGNOSIS

In most patients, ACC is diagnosed within the first 2 years of life. It may occur as:

- A severe syndrome in infancy or childhood.
- A milder condition in young adults.
- Showing no symptoms but found accidentally.
- An isolated condition.
- In combination with other brain problems.

ACC is sometimes associated with:

- Defects in multiple body systems.
- Genetic defects.
- Non-nervous system problems.
  - May occur with or without genetic problems.

## TREATMENT

There is no standard course of treatment for ACC.

- Treatment usually involves management of symptoms if they occur, such as:
  - Hydrocephaly.
  - Seizures.

## WHAT WILL HAPPEN

ACC does not cause death in the majority of patients. Many children with the disorder will lead normal lives. They can also have average intelligence. But careful testing shows some subtle differences. These are differences in intelligence and memory compared to individuals of the same age and education without ACC. Children with ACC and developmental delay and/or seizure disorders should be screened for metabolic disorders. Mental retardation is non progressive.

## RESEARCH BEING DONE

The NINDS (National Institute of Neurological Disorders and Stroke) conducts and supports a wide range of studies. These studies explore the complex mechanisms of normal brain development. The knowledge gained from these studies provides the basis for understanding how the process of brain development can go wrong. It offers hope for new ways to treat and prevent developmental brain disorders, including ACC.

**Research is continually being done to learn more about this problem.**
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