

Gerstmann syndrome

Developmental Gerstmann Syndrome, Gerstmann Tetrad

Gerstmann was a Viennese neurologist who described the eponymous syndrome in 1924.

- It consists of 4 components:
- Agraphia or dysgraphia
- Acaculia or dyscalculia
- Finger agnosia
- Left-right disorientation

Epidemiology

Incidence It can occur in 2 basic forms. One is as a congenital or learning disorder. The other is as a feature of a stroke of the middle cerebral artery. Both forms are rare, but especially the childhood form. It can also be a feature of other neurodegenerative diseases like Alzheimer's disease or as a result of head injury.

The childhood type may occur in those with other brain damage or in isolation with otherwise good mental function. It does not seem to have a genetic component. It has been argued that developmental Gerstmann's syndrome it is not a unique entity but a feature of other neurodevelopmental disorders¹. This has been disputed?

Risk Factors The affected area is the parietal lobe on the dominant side.

The risk factors for the adult type are as for strokes.

The speech area is in the dominant hemisphere that is on the left in about 95% of right handed people. It is also on the left in 75% of left handed people but in the other 25% it appears to be bilateral.

Presentation There is loss or absence four sensory abilities.

- Loss of the ability to express thoughts in writing (agraphia, dysgraphia),
- In ability to perform simple arithmetic calculations (acaculia),
- Inability to recognize or indicate one's own or another's fingers (finger agnosia),
- Inability to distinguish between right and left.

In addition, many adults also experience aphasia, (difficulty in expression with speech, in understanding speech, or in reading and writing).

The cause in children is not known. Most cases are identified when children start school and they are challenged with writing and numbers. Generally, children with the disorder exhibit poor handwriting and spelling, and difficulty with mathematical functions, including adding, subtracting, multiplying, and dividing. An inability to differentiate right from left and to discriminate among individual fingers may also be