

## The risk factors for stroke in children, ten years' experience

Kambiz Eftekhari<sup>1\*</sup>, Armen MAlekiantaghi<sup>2</sup>

1. Associate Professor of Pediatric Gastroenterology, Pediatric gastroenterology and hepatology research center, Department of pediatrics, Bahrami Children's Hospital, Tehran University of Medical sciences, Tehran, Iran
2. Assistant Professor of Pediatric Gastroenterology, Department of pediatrics, Bahrami Children's Hospital, Tehran University of Medical sciences, Tehran, Iran
3. Corresponding Author: Kambiz Eftekhari M.D.

Mailling Address: Pediatric department, Bahrami Children's Hospital, Kiaee Street, Tehran, Iran.

### Abstract:

**Introduction:** Stroke is one of the cerebrovascular diseases. Stroke is different in children and newborns than it is in adults. Causes of stroke are also different in children than they are in adults. Stroke is more common in boys than girls, even after controlling for differences in frequency of causes such as trauma. It is a heterogeneous disease and one of the leading causes of death in children. The incidence of pediatric stroke ranges from 1.2 to 13 cases per 100,000 children under 18 years of age. There are several types of stroke including: ischemic, hemorrhagic, or both. Ischemic stroke in children accounts for about half of all stroke cases. Many different risk factors have been reported for childhood stroke, which cardiac disease, hemorrhagic abnormality, vasculopathies, viral infections, and veno-arterial malformation are of more importance. These factors are different from adults that including hypertension, diabetes, and atherosclerosis. The aim of this study was to determine the most common risk factors for stroke in children.

**Method:** This was a retrospective, cross-sectional descriptive study. All children under 18 years old with a definite diagnosis of stroke were selected during the past 10 years. Their medical records were obtained from the hospital archive. Then risk factors of stroke were identified from these medical records.

**Results:** Fifty-two patients had been hospitalized with a stroke diagnosis for the last 10 years. 63.5% were male. The mean age was  $58.1 \pm 47.37$  months (6 months- 17 years). The most cases of strokes occurred in children over the age of 7 (26.9%). The most common risk factors were: cardiac disorders (25%), metabolic vasculopathy (17.31%), head trauma

(11/54%), infectious causes (9.6%), hematological disorders (9.6%), cerebral arteriopathy (9.6%), systemic diseases (7.69%), brain tumor (5.77%), and prothrombotic disorders (1.92%). In 25% of cases there was no risk factor (Idiopathic).

*Conclusions:* Childhood stroke is an important cause of mortality and morbidity. Roughly 10–25% of children with a stroke will die, up to 25% of children will have a recurrence, and up to 66% will have persistent neurological deficits or develop subsequent seizure disorders, learning, or developmental problem. The prompt recognition of stroke and thorough investigation for potential risk factors are crucial. Early recognition of pediatric stroke should lead to more rapid neurological consultation, imaging, treatment, and improved outcomes. In 75% of our patients, risk factors for stroke were identified. The most common cause of stroke in children was heart disease. In one-quarter of the patients, there was no specific cause for stroke.

**Keyword:** Children; Ischemic; Risk factors; Stroke

**Biography:**

Kambiz Eftekhari<sup>1\*</sup>, Armen MAlekiantaghi<sup>2</sup>

1. Associate Professor of Pediatric Gastroenterology, Pediatric gastroenterology and hepatology research center, Department of pediatrics, Bahrami Children's Hospital, Tehran University of Medical sciences, Tehran, Iran
2. Assistant Professor of Pediatric Gastroenterology, Department of pediatrics, Bahrami Children's Hospital, Tehran University of Medical sciences, Tehran, Iran
3. Corresponding Author: Kambiz Eftekhari M.D.

Mailing Address: Pediatric department, Bahrami Children's Hospital, Kiaee Street, Tehran, Iran.

Tel: +982173013210, Fax: +982177568809

Email Address: [dr\\_k\\_eftekhary@yahoo.com](mailto:dr_k_eftekhary@yahoo.com)