

Introduction

When we speak of strokes, we often think of them as something that would happen only to older people. But in children; although they are considered rare, they could lead to significant morbidity and even mortality. A stroke is a neurological injury with an underlying vascular damage. It could be either a hemorrhagic or an ischemic stroke; the latter type is subdivided into arterial ischemic stroke (AIS) and cerebral sinovenous thrombosis (CSVT).

The incidence of AIS in western countries was estimated at 2-3/100000 children per year in the first 5 years; while neonatal and perinatal period had a higher incidence at 1/4000 live birth. In USA, strokes are among the most common causes of death in children, especially among those in their first year.

Concerning the AIS; children have a wider range of risk factors that includes heart disease, sickle cell disease, infection, thrombotic disorders and trauma. These risk factors often vary according to age and ethnicity.¹

The recurrence rate in pediatric stroke was found at 25%, with a mortality rate that varies between 10-25%. Nearly 66% of those affected will develop neurological deficits, seizure disorders or learning difficulties.

Due to lack of awareness, strokes are often underdiagnosed, which increases the severity of its subsequences.²

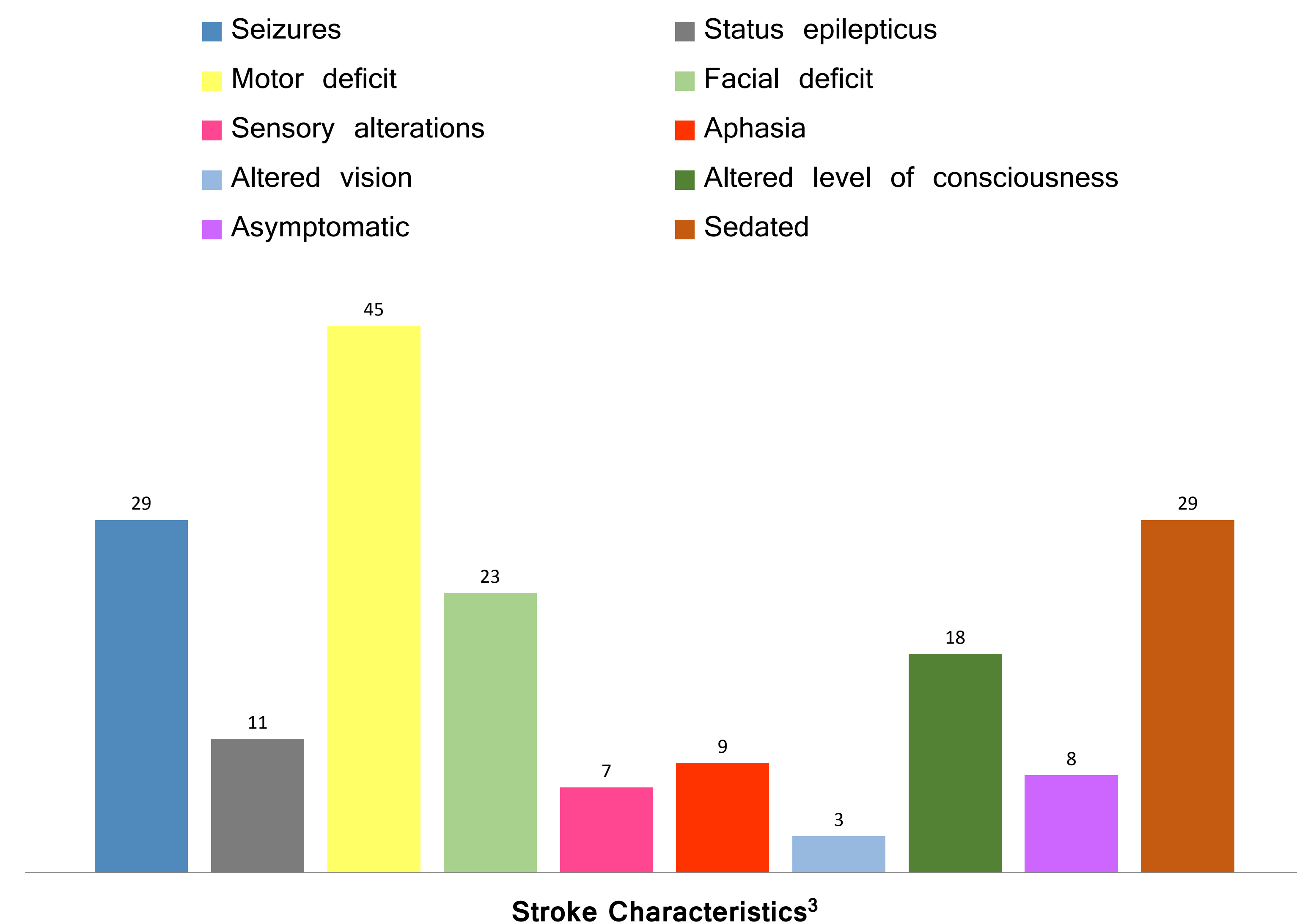
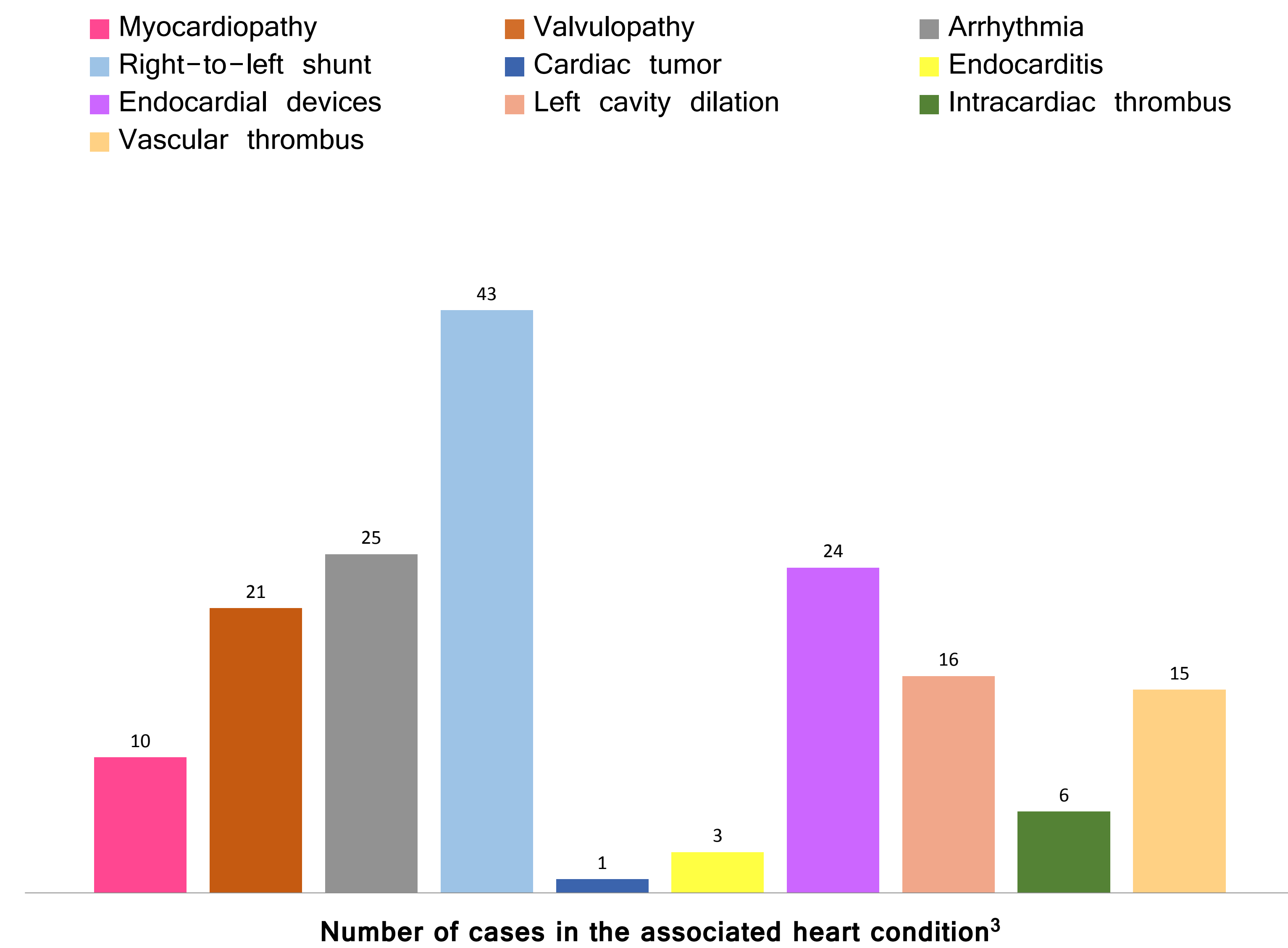
Method

A study was conducted in 74 children with heart disease. They were younger than 16 and were diagnosed with AIS between January 2000 and December 2014.

Results

Heart disease was congenital in 89% of patients. The stroke occurred during the first year in 37 patients; in 14 of them, it occurred during the neonatal period. Of the 16 patients who were deceased by the end of the study; 13 died in their first year, mostly due complications of heart disease.

The recurrence rate was 11%. Of which 33% was in patients with endocarditis and 20% had endocardial devices.



Discussion

Most of the patients suffered from congenital heart disease; nearly 50% requiring surgery during the neonatal period. Strokes frequently occurred a short period after undergoing cardiac procedure. Stroke is often a complication of catheterizations due to the endothelial lesion caused by the catheter and formation of thrombi at the tip of the catheter. It was found that the use of circulatory support devices increases the risk of formation of microthrombi in cerebral vessels.

The most frequent presentations were motor deficit and seizures. There were a lower percentage of speech alterations, explained by the young age of the patients. It should be noted that a large number of children showed no symptoms at the onset of the stroke; probably due to sedation, seeing as many strokes occurred following cardiac surgery.³

Conclusion

Although it is rare; AIS could occur in children in certain conditions. Many cases are associated with the presence of congenital heart disease. Seeing how troubling it could be; raising awareness is necessary.

References

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