



4-2010

## Pediatrics Neurology

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### Recommended Citation

Gulab, Shamshad (2010) "Pediatrics Neurology," *Pakistan Journal of Neurological Sciences (PJNS)*: Vol. 5 : Iss. 1 , Article 10.  
Available at: <https://ecommons.aku.edu/pjns/vol5/iss1/10>

# PEDIATRIC NEUROLOGY

## COMMENTARY

Joint hypermobility and benign hypotonia are two important causes of motor developmental delay in infants and physical therapy is recommended to improve their development. The first article examines the effect of the frequency of physical therapy on motor catch-up in infants with joint hypermobility. The study groups comprised of 29 infants, who were placed into a monthly and weekly treatment groups. The study demonstrated benefit of weekly therapy in the age of independent walking.

Acute transverse myelitis is an important differential diagnosis of acute flaccid paralysis in childhood. Studies on clinical and imaging profile, and outcome of childhood acute transverse myelitis is limited especially in this part of the world. The second study by Veena et al not only brings forth several important clinical features but also the first study that investigated the presence of C.jejuni infection and antiganglioside antibodies in transverse myelitis.

Arterial ischemic stroke is a major cause of morbidity and mortality in children. In recent year's substantial research in the field has led to improved understanding of various etiological risk factors, findings on neuroimaging and treatment modalities. Basal ganglia and internal capsule strokes occur in the territory of perforator arteries, which are functionally classified as end arteries and as a result, any flow disturbance is likely to cause permanent damage. This study from Argentina by Maria Celeste and colleagues included children with basal ganglia and internal capsule infarcts. Infarcts in other territory of MCA were used to compare the occurrence of risk factors. Varicella zoster virus infection and mild head trauma were the most common risk factors when compared with non-basal ganglia group. Other important risk factors, neuroimaging findings and outcome have been discussed.

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J Child Neurol. 2009 Jun;24(6):714-9

Mintz-Itkin R, Lerman-Sagie T, Zuk L, Itkin-Webman T, Davidovitch M.

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## **DOES PHYSICAL THERAPY IMPROVE OUTCOME IN INFANTS WITH JOINT HYPERMOBILITY AND BENIGN HYPOTONIA?**

This study examined the effect of the frequency of physical therapy on the outcome of infants referred for delayed motor development due to joint hypermobility and benign hypotonia. The study groups comprised 29 infants (8-12 months) who were randomly placed into a monthly and weekly treatment groups. No difference was found between the 2 study group scores on the different tests at all assessment points. However, assessment of walking at the age of 15 months

revealed a clear advantage of the infants who were treated weekly. Our study demonstrated a minor benefit of weekly treatment protocol only in the achievement of independent walking in children with joint hypermobility and benign hypotonia. It did not prove an advantage of weekly physical therapy. It seems that monthly physical therapy combined with a home treatment protocol implemented by the primary caregivers is sufficient to achieve motor catch-up.

J Child Neurol. 2009 Apr;24(4):466-71

Kalra V, Sharma S, Sahu J, Sankhyan N, Chaudhry R, Dhawan B, Mridula B.

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## **CHILDHOOD ACUTE TRANSVERSE MYELITIS: CLINICAL PROFILE, OUTCOME, AND ASSOCIATION WITH ANTIGANGLIOSIDE ANTIBODIES**

Prospectively, in 15 children the association of acute transverse myelitis with *Campylobacter jejuni* infection and antiganglioside antibodies was studied. The clinical profile, radiological findings, and treatment outcome in these children were analyzed. Stool culture and serology for *Campylobacter jejuni* and antiganglioside antibodies were tested. In all, 15 age- and sex-matched healthy controls were tested for evidence of *Campylobacter jejuni* infection and antiganglioside antibodies. Anti-GM1 antiganglioside immunoglobulin G antibodies were found in 46% of patients with acute transverse

myelitis versus 6.6% of controls ( $P = .035$ ). Evidence of *Campylobacter jejuni* infection was absent in both the groups. The magnetic resonance imaging revealed longitudinally extensive lesions in majority. All children underwent intravenous high-dose corticosteroid treatment. At 1-year follow-up, 8 children had recovered completely, whereas 3 were nonambulatory. Bladder disturbances persisted in 7. The significance of these findings and the possible role antiganglioside antibodies may play in acute transverse myelitis pathophysiology is discussed.

J Child Neurol. 2009 Jun;24(6):685-91

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## **BASAL GANGLIA AND INTERNAL CAPSULE STROKE IN CHILDHOOD - RISK FACTORS, NEUROIMAGING, AND OUTCOME IN A SERIES OF 28 PATIENTS: A TERTIARY HOSPITAL EXPERIENCE**

We present 28 patients with basal ganglia ischemic stroke and describe the main neurological manifestations, neuroimaging findings, risk factors, and outcome. In 23 cases, at least 1 risk factor was identified. A total of 7 cases (25%) had antecedent of varicella infection and 7 cases (25%) had preceding mild head trauma. Similar antecedents were present only in 2.6% and 5.3% of patients with nonbasal ganglia stroke, respectively (odds ratio: 12.2, 95% confidence interval: 2.04-124.65 and odds ratio: 5.92, 95% confidence interval: 1.32-29.7). The arterial

abnormalities identified in 10 patients were narrowing (6) or occlusion (4) of the M1 segment. After a median follow-up of 24 months, 19 patients had a good outcome. Magnetic resonance angiography and catheter cerebral angiography played an important role in the identification of arterial disease. We propose that basal ganglia infarction is a different group of ischemic stroke with prevalent risk factors (varicella infection and mild head trauma) and good outcome.