

FORCEFUL STRETCHING OF THE HAMSTRINGS AT WHAT EXPENSE? SCIATIC NEUROPATHY IN A CHILD

Dear Sir,

A nine-year-old girl presented with a right foot drop and gait disturbance for the last three days. Her complaints started during a warm-up session at a physical education lesson. On detailed questioning, she described that while she was stretching her hamstrings (in a sitting position with her thighs abducted and forward bending), her teacher forcefully pushed her from the back, towards the right side for further trunk flexion. Her medical history was otherwise non-contributory. There was no history of hamstring tightness on both sides or any predisposing factors to this.

On physical examination, the patient's low back motions were normal and the straight leg raising test was bilaterally negative. The muscle strengths of the right lower limb were found to be as follows: ankle and toe dorsiflexion 2/5; ankle plantar flexion 5/5; knee flexion 3/5; knee extension and hip flexion-extension-abduction-adduction 5/5. The rest of the neurological examination, including the left lower limb, was unremarkable. The patient was suspected to have a right-sided sciatic nerve injury due to overstretching. She was prescribed an ankle-foot orthosis and home-based strengthening exercises. On the 24th day of injury, the diagnosis was confirmed with electrophysiological testing, which localised the lesion on the lateral trunk (peroneal division) of the right sciatic nerve above the knee level. Nerve conduction velocities were normal; however electromyography (EMG) revealed abnormal spontaneous activities (fibrillation potentials and positive sharp waves) and a decreased recruitment in the right tibialis anterior and the short head of the biceps femoris muscles. The right gastrocnemius muscle EMG was normal. At the third month follow-up, the aforementioned muscle strengths were found to have improved significantly, and after one year, her gait and the bilateral lower extremity physical examination, including muscle strengths, were normal.

Injuries of the peripheral nerves due to traction or stretching are relatively rare in childhood when compared with the adult population. With regard to the sciatic nerve, common types of injuries in children include gluteal injections, hip surgery and penetrating trauma. Cases of sciatic nerve palsy have also been reported in association with tumour resection (including lithotomy positioning) and osteotomy-related stretching.^(1,2) To the best of our knowledge, sciatic nerve injury in a child has not been previously described in the literature, nor has it been reported in relation to sports.⁽³⁾ Keeping in mind the possibility that the scenario could have otherwise turned out to be a devastating eventuality in a nine-year-old girl, physicians, families and teachers should be vigilant for such an injury. Stretching should be progressive and gentle, never to the point of pain, and assisted stretching should only be performed by trained and experienced coaches/teachers. In a case like ours with a subtle injury, a conservative management is generally all that is necessary.

Yours sincerely,

Osman Hakan Gündüz

İlker Yağcı

Department of Physical Medicine and Rehabilitation

Marmara University Medical School

Üsküdar

İstanbul 34662

Turkey


Email: drhakang@hotmail.com

Levent Özçakar

Department of Physical Medicine and Rehabilitation
Gülhane Military Medical Academy
Haydarpaşa
İstanbul 34668
Turkey

REFERENCES

1. Senes FM, Campus R, Becchetti F, Catena N. Lower limb nerve injuries in children. *Microsurgery* 2007; 27:32-6.
2. Jones HR Jr, Gianturco LE, Gross PT, Buchhalter J. Sciatic neuropathies in childhood: a report of ten cases and review of the literature. *J Child Neurol* 1988; 3:193-9.
3. Hirasawa Y, Sakakida K. Sports and peripheral nerve injury. *Am J Sports Med* 1983; 11:420-6.



Orthopaedic MRI Update

*International Skeletal Society Regional Outreach Program,
1-2 Feb 2010*

*12th Annual Scientific Meeting of the Asian Musculoskeletal Society,
Feb 3-4, 2010, Muscat, Oman.*

Organising Chairman: Dr Khamis Al Muzahmi

Scientific Chairman: Prof. Wilfred CG Peh

www.ams2010.com

