Torticollis in Children. Imaging of Radiography, CT Scan, and Current Orthopaedic Surgery.

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Abstract

Torticollis, also known as “wry neck”, is a clinical finding of head tilt with or without rotational spinal malalignment. Torticollis can be acute or chronic (>1 week), and may be congenital or acquired. There is a wide range of causes of torticollis and the presence of associated symptoms/signs is important in narrowing the possible causes. Congenital torticollis, seen in infants, usually results from muscular causes (CMT) or craniocervical vertebral anomalies, although ocular abnormalities such as congenital strabismus should also be considered. Acquired torticollis, seen in older children, is often secondary to trauma, infection, or tumors.

Imaging should be used as a diagnostic tool after a complete medical history and clinical examinations have been obtained. In infant type of congenital torticollis, ultrasonography is the modality of choice. In cases of acquired torticollis such as trauma, conventional radiography should be the first-line imaging modality. In nontraumatic acquired torticollis, computed tomography (CT) of the cervical spine is the main imaging study if vertebral bony malalignment was suspected. If CT findings are negative, magnetic resonance (MR) imaging of the brain and cervical spine should be further performed. The use of multiple imaging modalities (conventional radiography, US, CT, and MRI) is common in the radiologic work-up of atypical or neglected torticollis, and clinicians must understand the role of each imaging modality in patients of various ages and etiologies.

When diagnosed early, it is accepted that muscular torticollis (MT) can be managed with good results using physiotherapy. However, regarding neglected cases of MT in older children, surgical approaches include unipolar or bipolar sternocleidomastoid release with or without Z-plasty can be practiced. For torticollis of skeletal origin, the primary goals of surgery for upper cervical spine deformity are reduction of the malalignment; decompression of the cervical spinal cord, and stabilization of the upper cervical spine.