'Idiopathic' torticollis: have you ruled out a spinal tumour?

Introduction

Torticollis is characterized by the tilting of the head towards one shoulder and the chin towards the opposite. This can cause significant disability and social embarrassment. In the absence of a definite cause, torticollis is labelled as 'idiopathic'. As tumours of the cranial base or cervical spine are known to be associated with torticollis (Levine et al, 1992), imaging is often focused on the cranium and upper spine. This article reports a case where progressive torticollis was associated with an intradural lumbar tumour, removal of which resulted in a remarkable reversal of the torticollis.

Figure 1. Preoperative photo showing torticollis.

Discussion

Torticollis can arise as a result of several causes: musculoskeletal, ligamentous, infectious, ocular as well as psychiatric (Becker et al, 1997). Paediatric cervical cord and posterior fossa tumours have been associated with torticollis (Gupta et al, 1996; Kjellin and Stibler, 1975). Truly idiopathic or spasmodic torticollis has been thought to result from basal ganglia circuit abnormalities (Kumandas et al, 2006), causing dystonia of the neck musculature. When no definite cause is detected, treatment is usually symptomatic and often unsatisfactory.

In this patient there had been no apparent anatomical or pathophysiological association between the torticollis and the lumbar tumour; as such, the surgery was

Figure 2. Magnetic resonance scan of lumbar spine showing tumour at L1–L2.

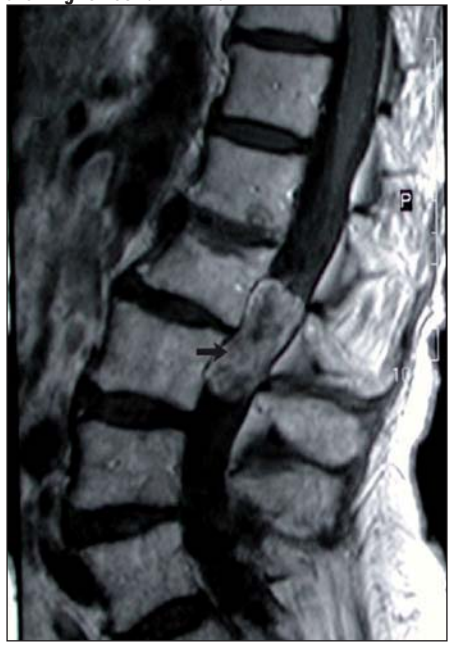

Figure 3. Postoperative reversal of torticollis.

Case Report

A 70-year-old woman presented with a 6-month history of progressive torticollis accompanied by low back pain and mild lower limb weakness (*Figure 1*). Apart from grade IV power and diminished reflexes in the lower limbs, her neurological examination was normal. Plain X-rays and magnetic resonance scan of the cranio-cervical junction and cervical spine did not detect any significant abnormality apart from age-related degenerative changes. The torticollis was thus thought to be idiopathic in aetiology. However, in view of her lower limb symptoms, a magnetic resonance scan of the lumbar spine was performed which revealed an intradural extramedullary tumour opposite the L1 and L2 vertebrae (*Figure 2*). Following excision of the tumour (schwannoma), her symptoms improved gradually. Nine months later, not only was she pain free and walking independently, but the torticollis had also reversed remarkably (*Figure 3*).

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not expected to reverse her torticollis. The precise aetiopathogenic mechanism of such an association is difficult to explain. Kjellin and Stibler (1975) postulated a possible role of encephalitogenic CSF proteins in the pathogenesis of torticollis. Alternatively, a tumour located at the junction of the conus and the cauda equina resulting in a 'secondary' tethered cord syndrome is another possible explanation.

While treatment of secondary torticollis is cause specific, that of the idiopathic variety is usually symptomatic and often empirical. This can include medications, physiotherapy, botulinum toxin injection and stress reduction techniques. Denervation surgery and deep brain stimulation are sometimes used for resistant or progressive cases.

Conclusions

Management of idiopathic torticollis is difficult. Finding a definitive cause decides the treatment and influences prognosis. While investigating cases of torticollis associated with any lower limb symptoms, imaging should not be limited to the cranio-cervical region. The authors recommend imaging the entire spine to exclude any occult thoraco-lumbar spinal tumour before the torticollis is labelled as 'idiopathic'. The authors' experience suggests that removal of such a lesion can dramatically reverse the torticollis. **BJHM**

Becker G, Naumann M, Scheubeck M et al (1997) Comparison of transcranial sonography, magnetic resonance imaging, and single photon emission computed tomography findings in idiopathic spasmodic torticollis. *Movement Disorders* **12:** 79–88

Gupta AK, Roy DR, Conlan ES, Crawford AH (1996) Torticollis secondary to posterior fossa tumours. *J Paediatr Orthop* **16:** 505–7

Kjellin KJ, Stibler H (1975) Cerebrospinal fluid protein patterns in spasmodic torticollis. *Eur Neurol* **13:** 461–75

Kumandas S, Per H, Gumus H et al (2006) Torticollis secondary to posterior fossa and cervical spinal cord tumours. *Neurosurg Rev* **29:** 333–8

Levine AM, Boriani S, Donati D, Campanacci M (1992) Benign tumours of the cervical spine. *Spine* **17**(10 Suppl): S399–406