

Sir,
Accessory medial rectus muscle in strabismus fixus convergens

We present a case of an accessory medial rectus muscle in strabismus fixus convergens.

Case report

A 36-year-old man presented with marked esodeviation since childhood. He had undergone no previous ocular surgeries and had no history of trauma. His best-corrected visual acuity was 0.6 in the right eye and 0.5 in the left eye. Krimsky test showed approximately 50 prism dioptres of

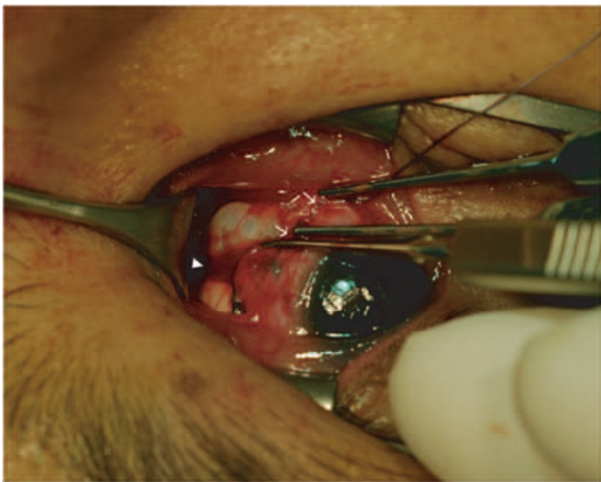


Figure 1 Intraoperative findings. Arrow indicates the original insertion of the medial rectus muscle. The accessory muscle hooked by Stevens hook is shown in the superoposterior portion from original insertion (arrowhead).



Figure 2 Axial computed tomography shows the accessory muscle in the right medial rectus.

esodeviation. Ocular motility examination revealed marked limitation in abduction, supraduction, and adduction, though there was only a 20% limitation in infraduction. Forced duction test was positive in the medial rectus and inferior rectus in both eyes. We planned for bimedral resection. The conjunctiva was incised limbally, and the medial rectus was isolated. In the right eye, the medial rectus muscle was detached from the original site. The accessory medial rectus muscle, which is 2 mm in width, was found 1.5 mm superoposterior to the original insertion site of the medial rectus muscle (Figure 1). No connection could be found between the accessory muscle and the original medial rectus muscle. Computed tomography showed the accessory muscle in the right medial rectus (Figure 2).

Comment

Strabismus fixus convergens is a rare type of restricted strabismus. Strabismus fixus may be related to congenital fibrosis of the extraocular muscles. However, other causes of strabismus fixus may include head trauma, sixth nerve palsy, high myopia, and cataract surgery.¹ Nevertheless, the pathogenesis of strabismus fixus is not completely clear.

Many reports have documented anomalies of extraocular muscles. However, medial rectus anomalies are rare extraocular muscle conditions.² Moreover, although several types of anomalies have been reported—including duplication, hypoplasia, and absence—accessory extraocular muscles are very rare. Ozkan *et al*³ reported a hypoplastic inferior rectus with an accessory extraocular muscle in association with globe retraction and lambda-pattern exodeviation, and a few cases of accessory lateral rectus muscles have been reported.⁴

Therefore, it is possible that anomalies of the medial rectus muscle, such as accessory medial rectus, play a role in the pathogenesis of strabismus fixus convergens.

References

- 1 Yang YH, Yim HB. A case of surgical repair in strabismus fixus with ptosis. *Korean J Ophthalmol* 2004; **18**: 180–184.
- 2 Sundaram V, Chen SD, Colley S, Hundal K, Elston J. Bifid medial rectus muscle insertion associated with intermittent distance exotropia. *Arch Ophthalmol* 2005; **123**: 1453.
- 3 Ozkan SB, Ozsunar Dayanir Y, Gokce Balci Y. Hypoplastic inferior rectus muscle in association with accessory extraocular muscle and globe retraction. *J Aapos* 2007; **11**: 488–490.
- 4 Park CY, Oh SY. Accessory lateral rectus muscle in a patient with congenital third-nerve palsy. *Am J Ophthalmol* 2003; **136**: 355–356.

SC Lee¹ and U Kim²

¹Department of Ophthalmology, Kangwon National University College of Medicine, Chuncheon, Korea

²Department of Ophthalmology, Kim's Eye Hospital, Konyang University College of Medicine, Seoul, Korea
E-mail: ungsokkim@kimeye.com

The authors have no financial conflict of interest to declare regarding the subject matter of this manuscript

Eye (2009) **23**, 2119; doi:10.1038/eye.2008.406; published online 16 January 2009