Superior oblique myokymia – a topical solution?

Kim Bibby, James S Deane, David Farnworth, John Cappin

Superior oblique myokymia (SOM) is a rare ocular motility disorder characterised by a monocular high frequency, low amplitude cyclo-torsional tremor. It occurs intermittently, giving rise to sometimes obtrusive symptoms of oscillopsia and diplopia.

Case report
A 50-year-old woman presented to the eye casualty department, Leicester Royal Infirmary with a 13-month history. She described oscillopsia and a feeling of tremor in her left eye. The symptoms occurred periodically and were particularly troublesome when she was reading. On examination, visual acuity was 6/6 unaided. Anterior segments, pupil reflexes, and funduscopy were unremarkable. Lid position was normal and she had a full range of ocular movements. Slit-lamp biomicroscopy disclosed a cyclotorsional tremor of fine amplitude with a vertical element. This was intermittent but could be induced by her looking down and to the right. We prescribed betaxolol drops twice daily to the left eye for 1 month, and reviewed the woman after 2 months. In the 4 weeks she had been using the drops she had been asymptomatic, but her problem returned within 1 week of stopping treatment. On examination left SOM was apparent. She recommended topical betaxolol and when reviewed at 3 and 6 months was totally asymptomatic. No SOM was observed on six separate occasions during these two outpatient appointments.

Comment
Superior oblique myokymia was described as a distinct entity by Hoyt and Keane as a benign, periodic uniconal vertical and rotary micro-tremor.1 It is rarely associated with serious underlying pathology, but can be disturbing symptomatically. Susac and Smith report successful elimination of symptoms with the use of carbamazepine, and go on to advocate superior oblique myotomy for intractable cases, or patients who cannot tolerate the drug.2 Propranolol is cited as a pharmacological alternative by Tyler and Ruiz.3 Leigh et al describe success with the use of a topical β blocker in one patient.4

Betaxolol has weak membrane stabilising effects compared with other β blockers and is unlikely to work topically. However, it has a bioavailability of 89% and demonstrates significant reduction in finger tremor when administered parenterally.5 We hypothesise that enough betaxolol may be absorbed systemically to eliminate SOM. The drug is cardioselective and has fewer of the side effects associated with propranolol or carbamazepine. It may be of use as a first line treatment in those patients whose symptoms are intolerable.