Orbital myositis secondary to statin therapy

A 45-year-old man presented with a 3-month history of diplopia and pain on left downgaze, increasing left upper lid oedema, and erythema. Eye movements were full and visual acuity and intraocular pressure normal. His regular medications, both commenced 4 months before presentation, were simvastatin (20 mg/day) and aspirin (100 mg/day). A complete blood count, thyroid function and auto-antibodies, inflammatory markers and creatine kinase were all unremarkable, as was an autoimmune screen. Orbital computed tomography showed left medial rectus and superior oblique enlargement.

Simvastatin was ceased, and all symptoms resolved within 3 weeks. Diplopia recurred 4 weeks after a rechallenge with 10 mg simvastatin daily, and resolved almost immediately after withdrawing the statin. The man subsequently elected to control his cholesterol levels with lifestyle modifications.

Orbital myositis is inflammation of one or more extraocular muscles, characteristically presenting with diplopia and orbital pain exacerbated by eye movement. Restriction of eye movement, exophthalmos, conjunctival inflammation and erythema may occur; imaging indicates muscle and tendon enlargement. It is usually idiopathic, but can occur in association with a range of inflammatory conditions, including sarcoidosis, systemic lupus erythematosus, Crohn’s disease and anti-neutrophil cytoplasmic antibody (ANCA)-associated vasculitis.

Statins are usually well tolerated medications, but myopathy occurs in 1%–5% of participants in clinical trials, and in 10%–15% of patients in observational studies. Statins can affect the extraocular muscles, and orbital myositis should be considered in patients experiencing orbital symptoms during statin treatment.

The metabolic requirements of extraocular muscles are enormous, but their glycogen content is limited, which may make them more vulnerable to the GTP depletion and myopathy associated with statin use. Such patients may present to any of a range of clinicians, and lack of awareness of this complication can mean that cessation of statin therapy is not tried, or that inappropriate treatment is given.

We reviewed VigiBase (the World Health Organization global individual case safety reports database) and two subsets of this adverse drug reaction database (the Medicines and Healthcare Products Regulatory Agency [United Kingdom] and the Therapeutic Goods Administration [Australia]) for all reported ocular complications associated with atorvastatin, simvastatin, rosuvastatin and pravastatin. These databases contained a total of 452 reports suggestive of orbital myositis (Box), including subjective and objective symptoms and signs, and one instance specifically described as an “extraocular muscle disorder”. The databases rarely record dechallenge or rechallenge data, nor do they record relevant investigations and clinical follow-up data. However, as most complications are unreported by patients and their clinicians, the true incidence of side effects is likely to be far higher than that reported.

We would encourage others to use scales such as the Naranjo algorithm, which incorporates important data such as rechallenge and the results of investigations, to calculate adverse drug reaction probabilities. Using this scale, our case achieved a score of 9, indicating a “definite” adverse drug reaction.

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References are available online at www.mja.com.au.


