Paediatric choroidal osteoma treated with ranibizumab

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SUMMARY

An 11-year-old patient presented with blurred vision in both eyes resulting from bilateral choroidal osteoma. The patient was treated with a course of monthly intravitreal injections of ranibizumab for 3 months and this led to improvement of visual acuity. This effect was sustained without the need for further injections over a 2-year period of follow-up.

BACKGROUND

The literature regarding the use of ranibizumab in the management of choroidal osteoma is limited. To the best of our knowledge, this is the youngest patient with a choroidal osteoma treated with ranibizumab and provides additional evidence about the efficacy and safety of ranibizumab.

CASE PRESENTATION

An 11-year-old girl was referred by her optometrist with blurred vision in both eyes of about 6 months duration. The child was struggling at school as a result. On examination, visual acuity was 6/15 in the right eye (RE) and 6/7.5 in the left eye (LE) not improving further with a pinhole. Anterior segment examination revealed no significant abnormality. Fundus examination revealed elevated, yellow-white, macular lesions with well-denied geographic borders. Depigmentation of the overlying pigment epithelium was noted. A diagnosis of bilateral choroidal osteoma was made.

INVESTIGATIONS

Ultrasound examination showed a slightly elevated, highly reflective choroidal mass with acoustic shadowing. The mass was still visible on lowering the gain when the other soft tissue echoes had disappeared.

Ocular coherence tomography (OCT) showed subretinal fluid in the RE. Fundus fluorescein angiography showed a very late leak in the RE with no evidence of a choroidal neovascular (CNV) membrane.

TREATMENT

The patient was treated with three intravitreal injections of ranibizumab (0.5 mg in 0.05 ml) to the RE 4 weeks apart.

OUTCOME AND FOLLOW-UP

The patient was followed up every 4 weeks for a year following the third injection and at 3 monthly intervals after that. Four weeks after the third injection, visual acuity (VA) had improved to 6/6 in the RE and there was no evidence of subretinal fluid on OCT. A small amount of subretinal fluid reappeared 9 months after completion of treatment. VA remained stable at 6/6 and no further treatment was given. At the last follow-up, 2 years after completion of treatment, VA remained stable at 6/6 in the RE and 6/7.5 in the LE.

DISCUSSION

Choroidal osteoma is a benign tumour where mature bone replaces choroid. It is usually found in a peripapillary location and may involve the macula. Histopathological examination shows bone in choroid. This has the appearance of mature bone. The marrow spaces contain thin walled, dilated blood vessels which communicate on the surface of the tumour, with a rich capillary network lying beneath Bruch's membrane.[1] The retinal pigment epithelium overlying the tumour is atrophic and this in addition to the fluid leaking out of abnormal vessels probably leads to photoreceptor dysfunction and causes reduced visual acuity. Decalcification can occur spontaneously[2] or after photodynamic therapy.[3] CNV can also develop leading to a sudden drop in VA. The use of ranibizumab had been reported in a much older patient.[4] The safety of ranibizumab in older patients has been well established by its extensive use in age-related macular degeneration. Our case proves the safety and efficacy of ranibizumab in a much younger patient. Bevacizumab which is unlicensed for use in the eye has also been used successfully, again, in an older patient.[5]

Learning points

- The loss of vision in choroidal osteoma can be reversible in some cases by intravitreal injections of ranibizumab.
- Ranibizumab is safe for use in children.
- The effect of ranibizumab appears to sustain for a substantial length of time.

Competing interests None.

Patient consent Obtained.

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