CASE REPORT

Unilateral choroidal granulomas complicated by choroidal neovascular membrane treated successfully with intravitreal triamcinolone in a patient with sarcoidosis

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SUMMARY

This case describes the use of intravitreal triamcinolone in the treatment of unilateral choroidal granulomas secondary to systemic sarcoidosis complicated by choroidal neovascular membrane. A single injection of 2 mg intravitreal triamcinolone was administered as treatment for rapidly progressing choroidal granulomas and associated choroidal neovascular membrane with subretinal fluid. Visual acuity had dropped from 6/5 to 6/48 with the progressing lesions. The patient was a 52-year-old woman with type 2 diabetes mellitus who was reluctant to consider oral steroids in view of their side effect profile. Ten days after injection, visual acuity improved to 6/24 and to 6/6 at 3 months follow-up with resolution of the subretinal fluid. There was no rise in intraocular pressure. There has been no recurrence at 5 months follow-up.

BACKGROUND

To our knowledge, this is the second case of choroidal granuloma secondary to sarcoidosis that has been successfully treated with intravitreal triamcinolone published in the world literature.

CASE PRESENTATION

A 52-year-old woman under regular hospital eye service review for ocular hypertension was noted to have multiple asymptomatic cream-coloured choroidal lesions in her left eye involving the left optic disc (figure 1A, B). There was no evidence of vitritis or anterior chamber cells and vision was 6/5 in each eye with normal colour vision and full fields.

INVESTIGATIONS

A diagnosis of choroidal sarcoidosis was made on the basis of a raised serum ACE of 74 (12–68) and a biopsy of subcutaneous lumps on her arms which revealed non-necrotising granulomas. Brain MRI and chest X-ray were reported as normal.

TREATMENT

In view of her diabetes she was unwilling to start oral steroids. Over the next 2 months the choroidal lesions gradually enlarged. Over the following week she developed subretinal fluid and her vision dropped to 6/48 LE (figure 1C, D). She was also found to have a choroidal neovascular membrane in addition to the choroidal granulomas at this

time. She was treated with a single intravitreal triamcinolone 2 mg injection to her left eye. No other treatment was used for the choroidal neovascularisation.

OUTCOME AND FOLLOW-UP

Her vision improved to 6/24 within 10 days and 6/6 at 3 months follow up (figure 1E, F) with no rise in intraocular pressure. There has been no further recurrence at 5-month follow-up.

DISCUSSION

Choroidal granuloma secondary to systemic sarcoidosis has been well described^{1–4} and shown to respond well to systemic corticosteroids although repeat treatment for recurrence is often required.⁴ As she developed a choroidal neovascular membrane as well as progressive choroidal lesions we opted for an intravitreal steroid injection as the best way to obtain a rapid response while minimising the risk of systemic side effects.

The method of steroid administration in our case was influenced both by a rapid deterioration in visual acuity, unilateral involvement and her comorbidity of diabetes mellitus. Earlier in the course of her investigations we were also concerned that systemic steroids might have had an effect on the histology of the subcutaneous lesions that were subsequently biopsied particularly as lymphoma was within the differential diagnosis at this stage.

Intraocular administration of steroids allows a higher and more localised concentration of the drug being injected. A comparison of sub-Tenon's and intravitreal administration of triamcinolone showed that intravitreal injection of triamcinolone resulted in a higher intravitreal triamcinolone concentration.⁵ Although previous raised intraocular pressure is a relative contraindication to intravitreal steroid use it was felt that in this case the risks outweighed the benefits. It is a useful general principle in patients with intraocular inflammation that the inflammatory component is adequately treated first and side effects such as raised intraocular pressure are managed as needed following this.

Although the pharmacokinetic profile of triamcinolone is known to be variable^{6,7} it has remained detectable in the vitreous following intravitreal

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Figure 1 Optical coherence tomography and colour photograph of left posterior pole at initial presentation (A) and (B), following rapid progression and development of subretinal fluid (C) and (D) and at 3 months following intravitreal triamcinolone (E) and (F).

injection up to 2.75 months following a single intravitreal injection.⁸ The duration of the effect of the intravitreal triamcinolone in this case remains to be determined.

To our knowledge, there has been one previously reported patient treated with intravitreal triamcinolone for choroidal granuloma secondary to systemic sarcoidosis⁹ which also resulted in a good outcome. This case provides support for the use of intravitreal injection of triamcinolone in selected cases as a safe and effective treatment for choroidal granulomas secondary to systemic sarcoidosis.

Learning points

- ▶ Intraocular administration of steroids allows a higher and more localised concentration of the drug being injected.
- ▶ Intravitreal injection of triamcinolone in selected cases is a safe and effective treatment for choroidal granulomas secondary to systemic sarcoidosis.
- ▶ The route of steroid administration may be influenced by progression of disease, comorbidity and unilateral or bilateral involvement.

Competing interests None.

Patient consent Obtained.

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