CASE REPORT

Uncommon inflammatory swelling of the lips: orofacial granulomatosis

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SUMMARY

Orofacial granulomatosis (OFG) is an unusual condition associated with permanent or recurrent swelling of orofacial tissues together with oral mucosal ulceration and a variety of orofacial characteristics. The chronic inflammation inherent to OFG often displays granulomas in the subepithelial stroma. We present a case of OFG and its management. The patient responded to intralesional injections of corticosteroids.

BACKGROUND

The term orofacial granulomatosis (OFG) refers to a group of uncommon diseases affecting the soft tissues of the oral and maxillofacial region, characterised by the presence of non-caseating granulomatous inflammation. It is associated with persistent or recurrent soft tissue enlargement, oral ulceration and a variety of other orofacial features.

CASE PRESENTATION

An 8-year-old girl presented with recurrent swelling of the lower lips for 6 months. Her parents reported that the swelling was preceded by redness of both cheeks and a gradual increase in the size of the child's lips, which was more noticeable in the lower lip. They could not correlate the occurrence of swelling to any systemic illness, possible allergens or drugs. The girl reportedly had no significant improvement with previous medications, the details of which were not available to us. Her medical, dental and family history was unremarkable. On examination, a diffuse swelling of the lower lip, which was everted and reddish in colour, was noticed ([figure 1](#)). It was soft in consistency, non-tender and non-pulsatile, and no regional lymphadenopathy was noted. Based on the clinical findings, a differential diagnosis of arteriovenous malformation, OFG or angioneurotic oedema was considered. A photograph of the patient taken

6 months earlier was produced by the parents for comparison; the picture showed absolutely normal colour and architecture of the lips ([figure 2](#)).

INVESTIGATIONS

An MRI was performed to evaluate the vascular nature of the lesion, however, it showed only the presence of tissue hyperplasia without any evidence of significant feeding vessels. Further, an incisional biopsy was carried out on the lower lip, showing evidence of several non-caseating granulomas with multiple giant cells ([figure 3](#)). This confirmed the diagnosis of OFG. At this stage, a detailed history of bowel diseases was elicited and no significant symptoms were reported by the patient or her family members. A routine blood investigation showed normal counts except for a marginal increase in the erythrocyte sedimentation rate. The possibility of systemic disorders and inflammatory bowel disease was thus ruled out.

TREATMENT

The condition and treatment plan were discussed with the parents. Since we could not identify any possible allergen, they were given a list of potential allergens to be avoided. The patient was treated with intralesional injections of triamcinalone 10 mg fortnightly for 2 months, and once a month for 4 months, along with clofazimine 50 mg capsules and topical emollients. The patient had no adverse reactions and no discomfort during the course, and the lesion gradually responded to treatment in 6 months.

Figure 1 Diffuse swelling of lower lip.

Figure 2 Photograph of the face taken 6 months earlier.

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Figure 3 Histopathology showing non-caseating granulomas with multiple giant cells.

OUTCOME AND FOLLOW-UP

At the end of the treatment period, the patient had almost regained normal colour and structure of her lips, and the 6-month follow-up period was uneventful (figure 4).

DISCUSSION

Wiesenfeld introduced the term ‘orofacial granulomatosis’ in 1985, to describe a group of diseases characterised by non-caseating granulomatous inflammation affecting the soft tissues of the oral and maxillofacial region.¹ It encompasses Melkersson-Rosenthal syndrome (MRS) and Miescher’s cheilitis granulomatosa (CG). MRS has been described as a triad of persistent lip or facial swelling, recurrent facial paralysis and fissured tongue. Whereas Miescher’s CG is characterised by swelling restricted to the lips. According to some authors, these two entities should not be considered distinct diseases but, instead, included in the spectrum of OFG. The diagnosis may be complicated by the fact that OFG may be the oral manifestation of a systemic condition, such as Crohn’s disease or sarcoidosis.²

The precise aetiology of OFG is unknown.³ Several theories have been suggested, including infection, genetic predisposition and allergy. There is a possible link with hypersensitivity to cinnamon and benzoates, and a cinnamon-free and benzoate-free diet showed improvement.⁴

Recently, researchers have identified a monoclonal lymphocytic expansion in OFG lesions and have suggested it could be secondary to chronic antigenic stimulation. It appears that cytokine production by the lymphocytic clone could be responsible

for the formation of granulomas in these lesions. However, an immunological origin (cell-mediated hypersensitivity reaction) is favoured because of the presence of activated helper T lymphocytes expressing interleukin 2 receptors in these lesions.⁵ The classic presentation of OFG is a non-tender recurrent labial swelling that eventually becomes persistent. This swelling may affect one or both lips, causing lip hypertrophy (macrocheilia). The swelling is initially soft but becomes firmer with time as fibrosis ensues. However, the clinical presentation can be highly variable, making the diagnosis difficult. For example, presentation of recurrent facial swelling affecting the chin, cheeks, peri-orbital region and eyelids without lip hypertrophy may mask the clinical diagnosis of OFG. Intraoral involvement is also common and may be in the form of gingival hypertrophy, mucosal tags or linear ulcerations involving the oral mucosa, tongue or gingival.⁶

When granulomas are revealed in biopsy material, a differential diagnosis between OFG and other granulomatous diseases is mandatory. Although pathological study cannot lead to a definitive diagnosis, it is possible to exclude some disorders, such as tuberculosis, on the basis of certain classic features (eg, caseating granulomas).⁷

Although it may not be associated with any systemic condition at the time of presentation, close monitoring and follow-up for Crohn’s disease is advised. In the series of eight paediatric patients with ‘idiopathic’ OFG, four developed Crohn’s disease several years after.⁸

Different therapeutic approaches have been proposed for multifocal OFG, including topical, intralesional or systemic corticosteroids, clofazimine, low-dose thalidomide, topical tacrolimus, tumour necrosis factor (TNF) α antagonists and low-level laser therapy. The response obtained using these therapies was highly variable.⁹

Patient’s perspective

My child was suffering from recurring swelling of her lips and redness over the lower part of her face for the past 6 months. There was only temporary relief on taking medications prescribed by our family doctor. Travelling and attending outdoor functions were frequently avoided for fear of sudden occurrence of the swelling. By God’s grace, after receiving the injections, she has been free from symptoms for the past 6 months.

Learning points

- ▶ Orofacial granulomatosis (OFG) is an uncommon inflammatory condition affecting orofacial soft tissues with variable, multiform and multifocal clinical presentation.
- ▶ Recurrent swelling of the orofacial region can be a presentation of OFG.
- ▶ Dietary exclusion is an important treatment strategy in treating OFG and should always be a first-line approach, as it can avoid the need for systemic immunosuppression.
- ▶ Patients with OFG can develop Crohn’s disease at a later stage, so they should be monitored for the development of bowel symptoms.

Figure 4 Resolution of swelling at the end of therapy.

Surgical management has also been proposed for monosymptomatic presentations of MRS, particularly for the treatment of severe granulomatous cheilitis at a quiescent stage. A surgical approach using a Er,Cr:YSGG laser has demonstrated promising results on oral mucosa.⁹

Contributors AH, AM and GK diagnosed the case, performed the biopsy, treated the patient, participated in drafting the article and gave it final approval for submission. RK was involved in the case discussion, diagnosis, collection of reference articles, and preparation of the write-up and final approval of the paper.

Competing interests None declared.

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