

Diagnostic dilemma of kimura disease of eyelids

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SUMMARY

Kimura disease (KD) is a rare benign chronic inflammatory disease that presents as a nodule mostly involving deep subcutaneous tissue of the head and neck region with frequent regional lymphadenopathy and peripheral blood eosinophilia. KD shares some clinical and histopathological similarity with angiolymphoid hyperplasia with eosinophilia (ALHE). Consequently, KD and ALHE were once considered variants of the same disease spectrum. We present here rare cases of Kimura disease and ALHE involving the eyelid and lacrimal gland and discuss their differential features.

INTRODUCTION

Kimura disease (KD) is a rare benign chronic inflammatory disease that presents as a nodule mostly involving deep subcutaneous tissue of the head and neck region with frequent regional lymphadenopathy and peripheral blood eosinophilia. KD shares some clinical and histopathological similarity with angiolymphoid hyperplasia with eosinophilia (ALHE). Consequently, KD and ALHE were once considered variants of the same disease spectrum. We present here rare cases of Kimura disease and ALHE involving the eyelid and lacrimal gland and discuss their differential features.

CASE REPORT

Case 1

A 33-year-old Malay man with kidney focal segmental glomerulosclerosis presented with gradual painless left eyelid swelling for a year. Physical finding revealed a mobile, firm, non-tender 2.0 x 2.0cm mass at left lateral upper eye lid with ptosis (Figure 1A) and also involving the left pre auricular and the parotid region. Slit lamp examination of anterior segment and posterior segment of both eyes showed that it was normal. Computed tomography scan showed a left lacrimal gland lesion with multiple enhancing left pre-auricular and parotid lymph nodes.

Blood tests showed elevated leucocytes counts of 11.64 x10³/μL (4.0-10.0 x10³/μL) with increased eosinophil rate of 35.7 % (0.0-7.0%). Peripheral blood film showed noted eosinophilia.

The patient underwent an excision biopsy of the left lacrimal gland. The pathologic diagnosis was Kimura disease with lymphoid follicles hyperplasia, high eosinophilia and forming eosinophilic abscess (Figure 1B& 1C). He was treated

conservatively. Follow up after two years showed no sign of the eyelid recurrence.

Case 2

A 61-year-old Malay women complained of painless right eyelid swelling for one year duration. Examination revealed a 1.5 x 2.0cm superficial, mobile, non-tender mass at medial aspect of right upper eyelid (Figure 1D). There was another smaller mass at right parotid region. Cataract was noted at her right eye. Funduscopy examination was normal. Computed tomography scan revealed right medial upper eyelid soft tissue lesion involving the skin and subcutaneous tissue. Two homogeneously enhancing nodules were visualized at the right parotid gland.

Blood tests showed a normal leucocytes count of 5.73x10³/μL (4.0-10.0x x10³/μL) with normal eosinophil rate of 1.0% (0-7.0 %). Peripheral blood film counts showed no eosinophilia. The patient underwent excision biopsy. The biopsy showed a central area of proliferation of blood vessel (Figure 1E), composed of epithelioid vascular cells, with focal glomeruloid features (Figure 1F). The tissue section was surrounded by a heavy inflammatory infiltrates rich in eosinophils (Figure 1E) and containing lymphoid follicles with germinal centres (Figure 1G). No atypical mitotic figures were observed. The histopathological features were consistent with angiolymphoid hyperplasia with eosinophilia after considering the clinical features and blood results of the patient. The lady remained asymptomatic during the two years of conservative follow-up.

DISCUSSION

Kimura Disease

In 1937, Kim and Szeto first described Kimura disease as eosinophilic hyperplastic lymphogranuloma. The Kimura disease then became widely known after the histological description by Kimura et al in 1948. Kimura disease typically presents as deep subcutaneous nodules in the region of head and neck in young Oriental males, rarely involving the orbit and lacrimal gland.¹ The nodule is usually larger about 3.0cm in size and is mostly painless. There is a frequent association with regional lymphadenopathy including the cervical and preauricular nodes as well as salivary glands which was present in our first case. Kimura disease is postulated to be associated with allergic or autoimmune respond. Peripheral eosinophilia is frequently seen with marked increased in serum IgE. Renal disease may also be

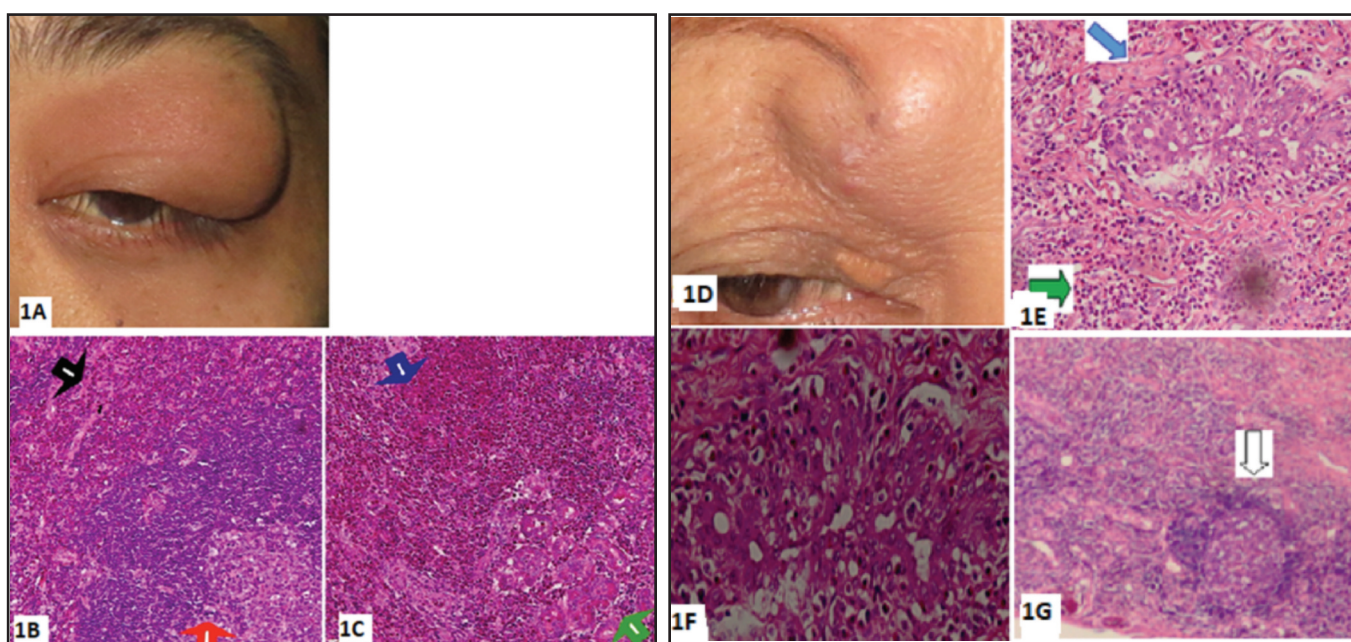
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Table I: Comparison of Kimura Disease and angiolymphoid hyperplasia with eosinophilia (ALHE)

	Kimura disease	ALHE
First described	1937	1969
Geography distribution	Mostly young Oriental male adult	Predominantly middle-aged Caucasian female
Etiology	Likely allergic or autoimmune response	Vascular malformation from arteriovenous shunt
Features of Lesion	Larger ≥ 3 cm, painless, subcutaneous masses in the head and neck	2-3cm dermal papules or subcutaneous nodules in the scalp and ear, erythematous or purpuric colour
Lymphadenopathy	Frequent regional	Rare
Peripheral eosinophilia	Yes	Rare
Serum IgE	Marked increase	Normal
Renal disease	Involved	No
Histopathology	Lymphoid follicle disorder, prominent germinal center, lymphocytic inflammation, dense eosinophils	Blood vessel disorder, epithelioid vascular cells with focal glomeruloid structure, prominent vacuoles in the cytoplasm, inflammatory infiltrate
Management	Surgical excision	Surgical excision
Prognosis	Excellent, may recur locally	High recurrence rate

**Fig. 1: CASE 1:**

1A: Left upper eye lid swelling with ptosis.

1B: The reactive lymphoid follicles (red arrow) with eosinophilic infiltration (black) (Haematoxylin and eosin, $\times 10$).

1C: The lacrimal gland (green arrow) and eosinophilic abscess (blue arrow) (Haematoxylin and eosin, $\times 10$)

CASE 2:

1D: Mass at medial aspect of right upper eyelid

1E: Central area of blood vessel proliferation (blue arrow) surrounded by a heavy inflammatory infiltrates rich in eosinophils (Green arrow). (Haematoxylin and eosin, $\times 10$)

1F: Epithelioid vascular cells with glomeruloid features. (Haematoxylin and eosin, $\times 40$)

1G: Lymphoid follicles with germinal centre (white arrow). (Haematoxylin and eosin, $\times 10$)

involved. Surgical excision of the nodule is needed in order to look for features of lymphocytic inflammatory infiltrate, formation of lymphoid follicles with prominent germinal centres, numerous eosinophils and fibrosis in a vascular stroma.^{2,3} The histological and clinical features of Kimura's disease are most consistent with an allergic or autoimmune process in which blood vessels, lymphocytes and eosinophils participate whereas features of ALHE suggest a primary vascular endothelium benign neoplastic disorder with underlying secondary inflammatory response. Most of the patients Kimura disease do well with surgical excision. If the

kidney is involved, immunosuppressant therapy can be offered. Cytotoxic drug and radiation have also been used. The outcome of the disease is excellent with occasional local recurrence.

Angiolymphoid hyperplasia with eosinophilia (ALHE)

ALHE is a blood vessel disorder resulting from an arteriovenous shunt with benign neoplasm of endothelial cell. Wells and Whimpter described pathological finding of ALHE in 1969 as exuberant vascular proliferation, inflammatory infiltrates containing lymphocytes,

eosinophils and mast cells but with no fibrosis. The disease is predominantly distributed in middle aged Caucasian females. The lesion is small, 2-3cm dermal papules or subcutaneous nodules in the scalp and ear. Sometimes, the papule is erythematous or purpuric in colour. Lid swelling, ptosis and proptosis are main presenting symptoms and signs of orbital and adnexa ALHE.⁴ Rarely, ALHE presents with peripheral eosinophilia, regional lymphadenopathy and renal disease. Histopathology shows epithelioid vascular cells with focal glomeruloid structure and prominent vacuoles in the cytoplasm as well as inflammatory infiltrate which was depicted in our second case^{1,3}. The glomeruloid features were absent from the first case. A histological confirmation is necessary to exclude malignant disorders which include angiosarcoma, epithelioid hemangioma, Hodgkin's lymphoma and hemangioendothelioma. The lesion is managed by surgical excision, preferably using Mohs technique as complete excision is difficult with half of cases will recurrence of the disease.⁵

The clinical features of painless left eyelid swelling in the first case together with generalised lymphadenopathy and absence of glomeruloid features favoured the diagnosis of Kimura Disease. Whereas, clinical features of rare lymphadenopathy in the second case coupled with histopathological features of proliferation of blood vessel, composed of epithelioid vascular cells, and prominence of glomeruloid structure favoured the diagnosis of ALHE (Table I).

In conclusion, distinguishing Kimura's disease from angiolymphoid hyperplasia with eosinophilia is challenging. Histopathological finding is needed to be correlated with clinical features to differentiate and diagnose both.

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CONFLICT OF INTEREST

The authors have no potential conflict of interest to declare.

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