CASE REPORT

Angiolymphoid hyperplasia of external ear treated with intralesional radiofrequency ablation

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SUMMARY

A 21-year-old woman presented with multiple erythematous to skin-coloured dome-shaped firm papules and plaques over the right ear concha and external auditory canal for 1 year. It was associated with occasional itching and bleeding. Her main concern was cosmetic disfigurement. Biopsy showed presence of multiple proliferating blood vessels lined by plump epithelioid endothelial cells surrounded by dense infiltrate of lymphocytes, histiocytes and eosinophils. Other routine investigations were within normal limits. A diagnosis of angiolymphoid hyperplasia with eosinophilia was made. A single sitting of intralesional radiofrequency ablation (Vesalius, coagulation mode; fanning technique) using 18-G intravenous cannula was done. This led to almost complete resolution with no recurrence at 3 months follow-up. There was no evidence of scarring or depigmentation.

surface changes seen. Other mucocutaneous areas and systemic examination including lymph node examination were within normal limits. A clinical diagnosis of ALHE was considered.

INVESTIGATIONS

Biopsy was taken from a smaller papule which showed involvement of upper and mid dermis in the form of proliferation of blood vessels lined by plump epithelioid endothelial cells (black arrow) surrounded by moderately dense collection of lymphocytes, histiocytes and eosinophils (red arrow) consistent with clinical diagnosis ([figure 1B, H&E, 400×](#)). Routine blood investigations including absolute eosinophil count and serum IgE levels were normal. A final diagnosis of ALHE was made after excluding Kimura disease in view of absence of regional lymphadenopathy, peripheral eosinophilia and normal IgE levels.

BACKGROUND

Angiolymphoid hyperplasia with eosinophilia (ALHE) is an uncommon vasoproliferative disorder affecting head and neck region. Though it is a benign condition, it has a tendency to persist and gradually increase in size. It leads to recurrent bleeding, pain and rarely pressure effects like conductive hearing loss due to obstruction of ear canal, etc. It also causes cosmetic disfigurement. Kimura disease, a close differential, in addition to skin lesions shows regional lymphadenopathy, peripheral eosinophilia and raised serum IgE levels.¹ Various medical and surgical modalities have been tried in the past with variable improvement. Recurrence is very common even with surgical excision. Intralesional radiofrequency ablation (RFA) is a simple, handy, cheap and minimally invasive technique used in various dermatological conditions.^{2 3} There are only few reports of use of this technique in the management of ALHE.

CASE PRESENTATION

A 21-year-old woman presented with history of developing multiple erythematous lesions in right concha associated with mild pruritus and pain on and off. There were occasional episodes of scanty bleeding on minor trauma. On examination, there was involvement of right concha and adjacent external auditory canal in the form of multiple, discrete, well-defined, firm, dome-shaped erythematous papules and plaques, of size ranging from 2 to 13 mm ([figure 1A](#)). There were no overlying

TREATMENT

A single sitting of intralesional RFA was done. Before the procedure, a small window was created in the plastic sheath of the intravenous cannula near the hub or proximal part using surgical blade ([figure 1D](#)). The distal 3–4 mm of the plastic sheath was also removed ([figure 1E](#)). After giving local anaesthesia with 2% lidocaine, cannula was inserted into the deepest part of the lesion. The needle of the cannula was touched with RFA probe (Vesalius, coagulation mode) through the proximal window. During this process the cannula needle was simultaneously moved out of the lesion, that is, from deeper to superficial part. The cannula was moved in multiple directions using the fanning technique but through single external entry point.

OUTCOME AND FOLLOW-UP

The patient showed near complete flattening of the lesion after 2 weeks. There was no recurrence at 3 months follow-up ([figure 1C](#)). There was no evidence of scarring or depigmentation. The patient was satisfied with the cosmetic outcome as well.

DISCUSSION

ALHE is a benign but persistent condition. Occurrence on exposed sites may lead to cosmetic disfigurement. Despite having multiple medical and surgical treatment options, the rate of recurrence is high.⁴ Intralesional RFA is one of the recent modalities being tried in this condition. It involves passing high-voltage alternating current through tissue

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Figure 1 (A) Multiple, discrete, firm, dome-shaped erythematous papules and plaques, of size 2–13 mm over right concha and adjacent external auditory canal. (B) Histopathology showing proliferation of blood vessels lined by plump epithelioid endothelial cells (black arrow) surrounded by moderately dense collection of lymphocytes, histiocytes and eosinophils (red arrow) in upper and mid dermis (H&E staining, 400 $\times$). (C) Right concha and external auditory canal showing complete clearance of lesions at 3 months follow-up. (D) 18-G cannula (without needle) showing window at proximal end (black arrow). (E) 18-G cannula (with needle) showing window at proximal end (black arrow) and absent 3–4 mm of plastic sheath at the distal end (red arrow).

leading to its healing.⁵ Singh *et al*⁶ reported cosmetically acceptable response with no recurrence in a 53-year-old man with nodular ALHE over forehead. Their technique was the same as ours including the size of cannula (18 G). However, depigmentation was noted as a side effect. Aruna *et al*⁷ used 22-G hypodermic needle instead of cannula. They noted scarring as a side effect. Plastic sheath of the cannula acts as an insulating material, thereby preventing damage to surrounding structures especially overlying skin. Only the distal uncovered tip of cannula dissipates electrical energy causing controlled damage to the surrounding tissue. Care should be taken while taking out the cannula as current should be discontinued once the distal needle tip comes in contact with skin and superficial tissue. This prevents burning or scarring of the epidermal entry point. Use of fanning technique ensures destruction of tissue in all planes,

thereby decreasing the chances of recurrence. Subhadarshini *et al*, used similar technique in three cases of ALHE observing good improvement (>70%), with one of the cases showing complete resolution at a mean follow-up of 8 months. They noted mild pain (3/3 cases) and accidental superficial burns (2/3 cases, which healed in 2–3 days) as the major side effects.⁸ Intraleisional RFA is a relatively newer technique which, if used appropriately, can provide cosmetically acceptable and long-term treatment response in ALHE.

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Learning points

- Angiolymphoid hyperplasia with eosinophilia (ALHE) is a chronic benign vasoproliferative condition with multiple treatment options but variable efficacy and high recurrence rate.
- Intraleisional radiofrequency ablation (RFA) is a relatively newer treatment modality for various dermatological conditions including ALHE.
- Use of intravenous cannula allows controlled destruction of abnormal tissue because of the presence of plastic sheath.
- Use of fanning technique allows destruction of tissue at all planes, thereby reducing the chances of recurrence.
- Care should be taken while taking out cannula, that is, to stop RFA current when the uncovered distal needle tip is touching the skin and superficial tissue.

7 Aruna C, Alagappan SK, Bhaskara RD, *et al.* Angiolymphoid hyperplasia with eosinophilia showing promising result with intralesional radio-frequency ablation therapy: a new cost-effective and hassle-free modality of treatment. *J Cutan Aesthet Surg* 2016;9:281–3.

8 Subhadarshani S, Gupta V, Taneja N, *et al.* Efficacy and safety of a novel method of insulated intralesional radiofrequency ablation for deep dermal and subcutaneous lesions. *Dermatologic Surgery* 2017;0:1–7.

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