

Case Report

Sclerotherapy with Polidocanol by Tessari Technique in a Case of Lymphangioma Circumscriptum over Axilla: A Rare Case Report

Debatraya Paul¹, Sunita Mech², Vikas Pathania³, Naushad Shah⁴, Santanu Banerjee⁵

¹Department of Dermatology, Military Hospital, Jaipur, Rajasthan, ²Department of Dermatology, Composite Hospital, Central Reserve Police Force, Guwahati, ⁴Department of Pathology, Ekopath Metropolis Lab Services Pvt. Ltd., Guwahati, Assam, ³Department of Dermatology, Base Hospital, Lucknow, Uttar Pradesh, ⁵Department of Dermatology, Ministry of Defence, Pune, Maharashtra, India.

*Corresponding author:

Sunita Mech,
Department of Dermatology,
Composite Hospital, Central
Reserve Police Force, Guwahati,
Assam, India.

sunitamech3@gmail.com

Received: 16 February 2025

Accepted: 31 May 2025

Published: 22 January 2026

DOI

10.25259/IJPGD_40_2025

Quick Response Code:



ABSTRACT

Lymphangioma circumscriptum (LC) is a congenital malformation of the lymphatics, presenting mostly before 5 years of life as grouped, asymptomatic, vesicular lesions, treated by surgical excision. For large sized LC, surgical excision is difficult and recurrences are common. Hence, conservative approaches should be explored and need documentation, which can be utilised by our colleagues for successful management of such cases. Here, we report a 13-year-old male, presenting with newly developed late-onset large sized LC lesions over the axilla, with dermoscopy showing frog-spawn-like appearance, confirmed histopathologically by presence of dilated lymphatic channels and cystic spaces containing clear, proteinaceous fluid and treated with 3% polidocanol, a sclerosant, by utilising Tessari technique.

Keywords: 3% polidocanol, Axillary lymphangioma circumscriptum, Sclerotherapy, Tessari technique

INTRODUCTION

Lymphangioma circumscriptum (LC) is a rare clinical entity, with benign proliferation of cutaneous lymphatics, presenting clinically as translucent vesicular lesions.^[1] Most cases reported are over vulva and scrotum. However, any part of the skin including axilla, neck, trunk and thighs can be involved. Treatment is a challenge, considering the recurrences after all modalities of treatment. Although mostly asymptomatic, for fear of complications such as rupture and infections, cases should be treated. Here, we report a case of a large axillary LC, successfully treated by a sclerosant, 3% polidocanol, using the Tessari technique.

CASE REPORT

A 13-year-old male, presented with multiple grape clusters - like grouped vesicles over the right axilla, which started 3 months back and had been gradually increasing in size, with occasional rupture, probably due to friction, causing discomfort and staining clothes. Clinical examination showed a group of translucent, minimally compressive, soft, multilobulated, vesicular lesions with verrucous crusted surface and haemorrhagic spots at the top of nearly half of the vesicles [Figure 1a]. Dermoscopic examination revealed multiple clear to pink and a few yellowish coloured

This is an open-access article distributed under the terms of the Creative Commons Attribution-Non Commercial-Share Alike 4.0 License, which allows others to remix, transform, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

©2026 Published by Scientific Scholar on behalf of Indian Journal of Postgraduate Dermatology



Figure 1: (a) (i) Axillary translucent, multilobulated, vesicular lesions with (ii) verrucous crusted surface and (iii) haemorrhagic spots; (b-c) Dermoscopic frog-spawn-like appearance with (iv) multiple clear to pink and a few yellowish coloured lacunae, (v) vascular structures, (vi) white lines, (vii) scales and (viii) hypopyon sign.

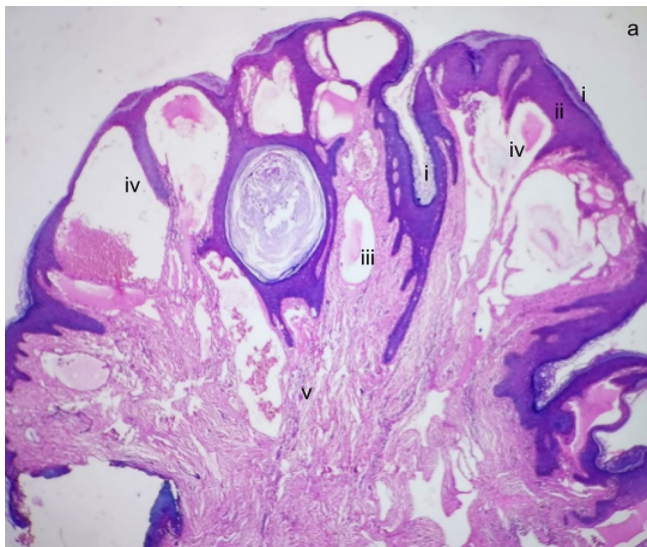


Figure 2: Histology at 20x magnification showing: (i) hyperkeratotic epidermis, (ii) acanthosis, (iii) dilated lymphatic channels, (iv) cystic spaces containing clear, proteinaceous fluid, (v) inflammatory infiltrates, mostly lymphocytes and occasional neutrophils in superficial and deep dermis.

lacunae, vascular structures, white lines, scales and hypopyon sign, overall exhibiting a frog-spawn-like appearance [Figure 1b and c].^[2,3] The history and clinical examination were suggestive of macrocystic lymphatic malformation (LM)

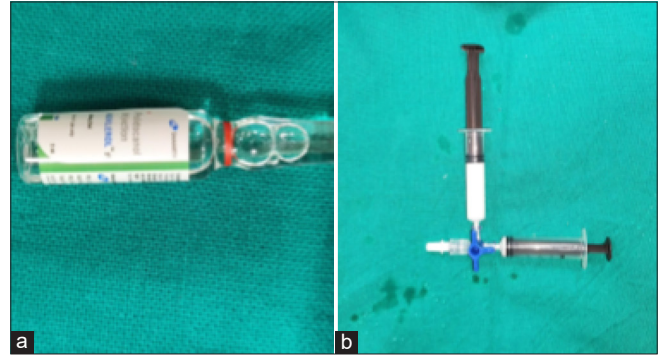


Figure 3: Production of foam for sclerotherapy by Tessari technique: (a) Polidocanol, (b) 3 way stop cock with attached syringes.

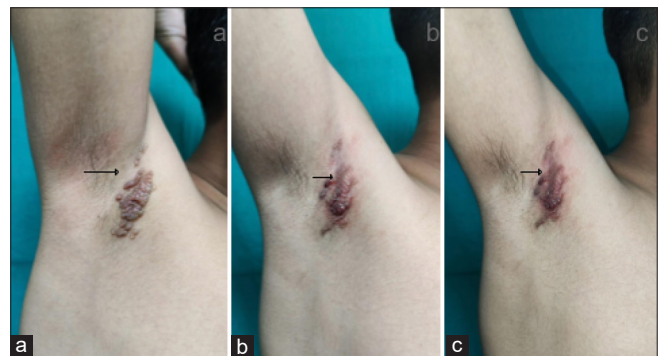


Figure 4: A 13 year old male with Lymphangioma circumscriptum treated with sclerotherapy with 3% Polidocanol using Tessari technique: (a) Pretreatment, (b) After two weeks of treatment, (c) After 4 weeks of treatment.

of the skin, also called as LC. Histopathology of skin biopsy was consistent with LC showing a hyperkeratotic epidermis, dilated lymphatic channels and cystic spaces containing clear, proteinaceous fluid with moderate lymphocytic infiltrate, and occasional neutrophils in superficial and deep dermis. Adnexal structures were unremarkable [Figure 2]. A diagnosis of LC was made and sclerotherapy was done using the Tessari technique, with polidocanol 3% solution, using a 3 way stop cock. For the procedure, two 5 mL syringes were taken. One filled with 3% polidocanol solution, another with room air. Both syringes were connected to the 3 way stop cock [Figure 3]. Foam was produced by repeated to-and-fro movement of the syringes. The foam generated was injected intralesionally at 12–15 sites at 0.05–0.1 mL/injection site. The patient's father was informed about the probable complications such as pain, redness, swelling, fever or other cutaneous symptoms and asked to report immediately at any point of time in case of any undue event. The patient was reviewed weekly. Reduction in size of the lesions was noted on each visit. Second session was repeated after 1 month. Significant reduction in size of the lesion was noted after the end of the

2nd month [Figure 4a-c]. No recurrence was detected up to 1 year of follow-up. No complication was reported.

DISCUSSION

LMs are congenital conditions that may involve organs rich in lymphatic drainage system, like intestine, subcutaneous tissues and skin, collectively called as lymphangiomas. Our case can be stated as LC or cutaneous atruncular LM, as we could not get evidence of lymphedema, that is seen in truncular LM, which occurs if the LM lesions are connected to nearby normal lymphatic channels. It can be congenital or acquired due to disruption of normal anatomy by malignancies, trauma, surgery or radiotherapy. Usually, congenital cases occur before 5 years of age. In contrast, our case had onset at 13 years of age. They need to be differentiated from angiokeratomas, molluscum contagiosum and warts.

Various treatment options include medical management such as sildenafil, systemic and topical rapamycin, surgical excision, electrocoagulation, radiofrequency ablation, CO₂ laser ablation, cryotherapy and sclerotherapy. A systematic review by Savas *et al.* of 16 studies has found CO₂ laser as efficacious and safe treatment modality, especially for large LC lesions.^[4] Aspiration of cystic fluid followed by injection of sclerosing agents such as bleomycin, doxycycline, ethanol and picibanil shows beneficial results.^[5] Recurrences are common with any treatment modality. Eradication of deep lymphatics decreases recurrences. LC may be complicated by lymphorrhoea, ulcerations, infections and bleeding. Therefore, treatment for reduction in size or complete cure needs to be encouraged.

Polidocanol was originally used as a local anaesthetic in the 1950s. It was United States Food and Drug Administration approved as sclerosant for incompetent veins which were used in foam or liquid forms in a concentration of 1% or 3% solution. Of late, it has been used for various dermatologic conditions such as pyogenic granuloma, acne cysts, glomovenous malformations, mucous cysts and mucoceles.^[6] Foam sclerotherapy with polidocanol shows better efficacy than liquid form, which is highly echogenic and facilitates ultrasonography-guided sclerotherapy. Erythema, oedema, pain, tenderness, increased local temperature and skin pigmentation are anticipated complications. A 70-years-old female with vulvar lymphangiectasia with previous history of squamous cell carcinoma was treated successfully with 3 mL of 1% polidocanol solution given intralesionally at 20 sites with 0.1–0.2 mL solution in a single session by Stull *et al.*^[7]

Sclerotherapy for axillary LC with 3% polidocanol has not been reported till date.

CONCLUSION

We present a case of axillary LC, successfully managed by sclerotherapy with 3% polidocanol using the Tessari.

Acknowledgement: To the patient party for the kind consent for the procedure and publication. Dr Ajithkumar K, Professor of Dermatology at Govt Medical College, Kottayam, Kerala, for his guidance for literature search. Jessica Borgohain, DPS, Khanapara, Meghalaya, for proof reading the script for correction of grammatical errors.

Ethical approval: Institutional Review Board approval is not required.

Declaration of patient consent: The authors certify that they have obtained all appropriate patient consent forms. In the form, the patients have given their consent for their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship: Nil.

Conflicts of interest: There are no conflicts of interest.

Use of artificial intelligence (AI)-assisted technology for manuscript preparation: The authors confirm that there was no use of artificial intelligence (AI)-assisted technology for assisting in the writing or editing of the manuscript and no images were manipulated using AI.

REFERENCES

1. Flanagan BP, Helwig EB. Cutaneous Lymphangioma. Arch Dermatol 1977;113:24-30.
2. Zaballos P, Del Pozo LJ, Argenziano G, Karaarslan IK, Landi C, Vera A, *et al.* Dermoscopy of Lymphangioma Circumscriptum: A Morphological Study of 45 Cases. Australas J Dermatol 2018;59:e189-93.
3. Bhattacharyya A, Sahadevan G. Frog-Spawn Appearance: Diagnostic Clue to Lymphangioma Circumscriptum. CosmoDerma 2023;3:137.
4. Savas JA, Ledon J, Franca K, Chacon A, Zaiac M, Nouri K. Carbon Dioxide Laser for the Treatment of Microcystic Lymphatic Malformations (Lymphangioma Circumscriptum): A Systematic Review. Dermatol Surg 2013;39:1147-57.
5. Farnoosh S, Don D, Koempel J, Panossian A, Anselmo D, Stanley P. Efficacy of Doxycycline and Sodium Tetradecyl Sulfate Sclerotherapy in Pediatric Head and Neck Lymphatic Malformations. Int J Pediatr Otorhinolaryngol 2015;79:883-7.
6. Nguyen QD, Stender C, Bur D, Silapunt S. Polidocanol: A Review of off-Label Dermatologic Uses. Dermatol Surg 2022;48:961-6.
7. Stull CM, Rakita U, Wallis L, Krunic A. Successful Treatment of Acquired Vulvar Lymphangiectasia with 1% Polidocanol Sclerotherapy. Acta Derm Venereol 2021;101:adv00520.

How to cite this article: Paul D, Mech S, Pathania V, Shah N, Banerjee S. Sclerotherapy with Polidocanol by Tessari Technique in a Case of Lymphangioma Circumscriptum Over Axilla: A Rare Case Report. Indian J Postgrad Dermatol. 2026;4:59-61. doi: 10.25259/IJPGD_40_2025