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Case Series

Sclerotherapy as a non-surgical treatment for eccrine angiomatous hamartoma in children: A case series

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Abstract

Background Eccrine angiomatous hamartoma (EAH) is a rare comprising benign skin lesions eccrine glands and vascular channels, usually causing pain and localized sweating in children. Surgical excision, the standard treatment, can cause scarring and is not often feasible for lesions near joints.

Objective To assess sclerotherapy as a non-surgical treatment for eccrine angiomatous hamartoma in children.

Methods Four children (age range 2.5-13 years; three boys, one girl) with biopsy-confirmed EAH involving the lower limbs have been treated with weekly intralesional injections of 3% polidocanol. Lesion sizes ranged from 2 × 3 cm to 7 × 7 cm. Treatment was continued until clinical improvement, with sessions ranging from 8 to 12 per patient. Follow-up ranged from 2 to 3 months.

Results All four patients exhibited reduction in lesion size, ranging from approximately 50 to 80%. Pain terminated completely in three patients and improved substantially in one. One patient with localized hyperhidrosis recorded decreased sweating. During injection, patients encounter brief stinging that subsided within minutes. No ulceration or necrosis happened.

Conclusion Intralesional 3% polidocanol showed good tolerance to the treatment, with few minimal and self-limiting symptoms which did not require additional intervention option for EAH in children, with short-term improvement in size and symptoms. Longer follow-up is required to assess durability and recurrence.

Keywords Eccrine angiomatous hamartoma; Sclerotherapy; Vascular malformation; Polidocanol; Cutaneous lesions; Hamartoma.

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Introduction

Eccrine angiomatous hamartoma (EAH) is a rare benign hamartoma comprising a proliferation of eccrine glands admixed with ectatic vascular channels. Its exact prevalence is unknown; fewer than 200 cases have been reported in the literature to date, with most occurring in children and young adults.[1-3] It usually presents in childhood as a soft nodule or plaque on the limbs and can cause significant pain and localized hyperhidrosis that impairs quality of life.[1-3]

Surgical excision remains the standard treatment, but this is not always so straightforward in children. In children, surgery near joints or weight bearing areas carries risks of scarring and functional limitation. Botulinum toxin has been tried for the hyperhidrosis component,[4] and pulsed dye laser for the vascular element,[5] but results have been inconsistent and often temporary.

We reasoned that since the vascular channels in

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EAH resemble those seen in venous malformations, sclerotherapy might offer a less invasive alternative. Polidocanol is an established sclerosant that causes endothelial injury and gradual vessel fibrosis,[7,8] since we had used it successfully for other lesions like venous malformation, varicose veins and haemangioma in our department. Only rare case reports have described sclerotherapy for EAH,[7,9] and no prospective series exist.

Here we describe four children with biopsy-proven EAH treated with intralesional 3% polidocanol, and report about reduction in lesion size, improvement in pain, cosmetic improvement, and decrease sweating over a follow up period of two to three months.

Case Series

Case 1 A 13-year-old boy presented to our outpatient clinic with his father, concerned about a swelling on his right ankle that had been present since age three but had grown noticeably over the past year. The lesion was located over the medial malleolus, measured 7 × 7 cm, and appeared bluish-red with a smooth surface. On palpation, it was soft, compressible, and slightly warm. The boy described a dull aching pain while walking **(Figure 1)**.

Skin biopsy revealed lobules of mature eccrine coils with numerous dilated, thin-walled capillaries in the dermis, confirming EAH.

Topical anaesthetic cream (EMLA) was applied under occlusion for 60 minutes prior to each session. Under aseptic precautions, we administered 0.3 to 0.5 ml of 3% polidocanol by intralesional injection using a 26-gauge needle at weekly intervals, targeting the most vascular areas under clinical guidance. The boy reported mild stinging during the first two sessions, which subsided within five minutes. By the sixth session, his parents noted that the sweating had reduced and he was bearing weight more comfortably. Treatment was continued for a total of 12 sessions.

At three-month follow-up after the last session, the lesion had decreased to just hyperpigmented patch. The boy reported minimal pain even after playing sports. No ulceration or skin necrosis was observed.

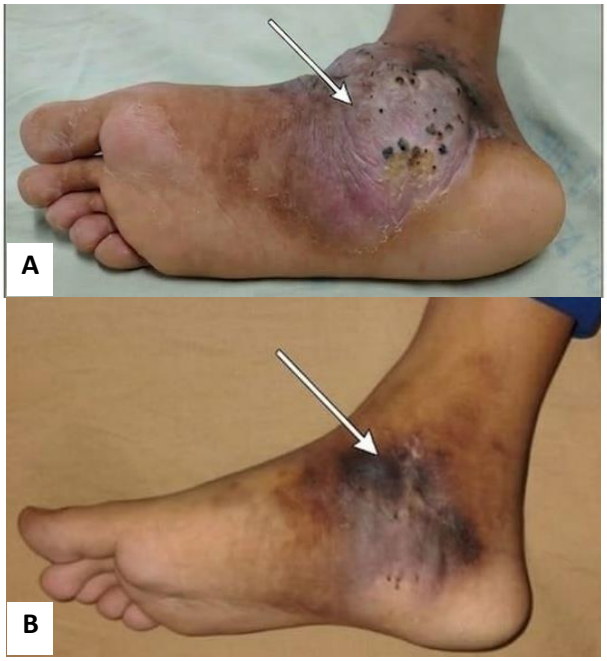

Figure 1 (A) Pre-treatment clinical photograph of the medial aspect of the foot revealing 7x7cm firm tender swelling. (B) Post-treatment clinical photograph taken 3 months after sclerotherapy. There is significant reduction in swelling and soft tissue bulk, with a remaining large area of flat, dark, post-inflammatory hyperpigmentation.

Case 2 A two-and-a-half-year-old boy was brought by his mother with a flat raised area on his left shin that had appeared at around six months of age. The mother's main concern was that the child would cry and pull away whenever the area was touched during bathing. The plaque measured 2 × 3 cm, was reddish-pink, and had a slightly pebbly surface. It was non-compressible and mildly tender on examination.

Histopathology was consistent with EAH.

Given the child's age, we used smaller volumes of 3% polidocanol (0.1–0.2 ml per session), injecting slowly into the central portion of the lesion using a 26-gauge needle under aseptic precautions; EMLA cream was applied under occlusion for 60 minutes before each session. The child tolerated the procedure with brief crying that settled quickly.

Sessions were conducted weekly with the mother holding the child.

After eight sessions, the lesion had flattened and measured approximately 1 × 1 cm. At three-month follow-up, tenderness had resolved completely and no regrowth was observed. There were no injection-site complications.

Case 3 A 10-year-old boy presented with a painful lesion on his left lower leg that had been present since early childhood. His parents had previously been told it was a birthmark, but sought consultation because the pain was interfering with his participation in sports. On examination, we found a 4×3 cm violaceous plaque over the left leg, soft and partially compressible. The boy winced on firm palpation **(Figure 2)**.

Histopathology demonstrated the characteristic eccrine glands and ectatic vascular spaces, confirming EAH.

Weekly intralesional injections of 3% polidocanol (0.3–0.4 ml) were administered over ten sessions using a 26-gauge needle under aseptic precautions, with EMLA cream applied under occlusion 60 minutes beforehand. The boy tolerated the injections well, describing only brief discomfort. Improvement was gradual, the parents first noticed softening of the lesion around the fifth session, and the boy reported being able to run without pain after the seventh session.

At three-month follow-up, the lesion flattened, got soft, with faded discoloration and no tenderness. No adverse events occurred during treatment or follow-up.

Case 4 A 6-year-old girl was brought by her parents with a lump on her left thigh noticed since she was one year old. The lesion had grown slowly, and the parents were worried because the child had started complaining of pain when sitting on hard surfaces. Examination revealed a 3 × 3 cm plaque over the anterolateral thigh, slightly raised, soft, and tender to pressure **(Figure 3)**.

Histopathology confirmed EAH.

We treated her with eight weekly sessions of intralesional 3% polidocanol (0.2-0.3 ml per session)

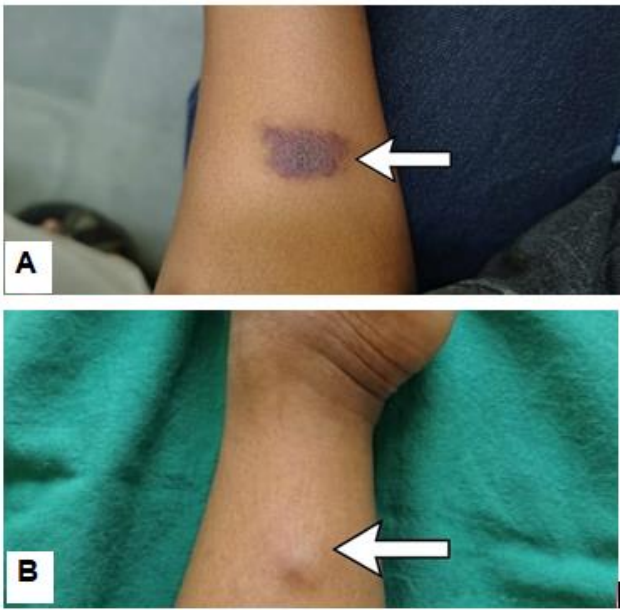

Figure 2 (A) Pre-treatment clinical photograph showing an irregularly shaped, purplish-erythematous vascular plaque on the distal lower extremity. (B) Post-treatment clinical photograph taken 3 months after sclerotherapy, demonstrating near-complete resolution of the lesion.

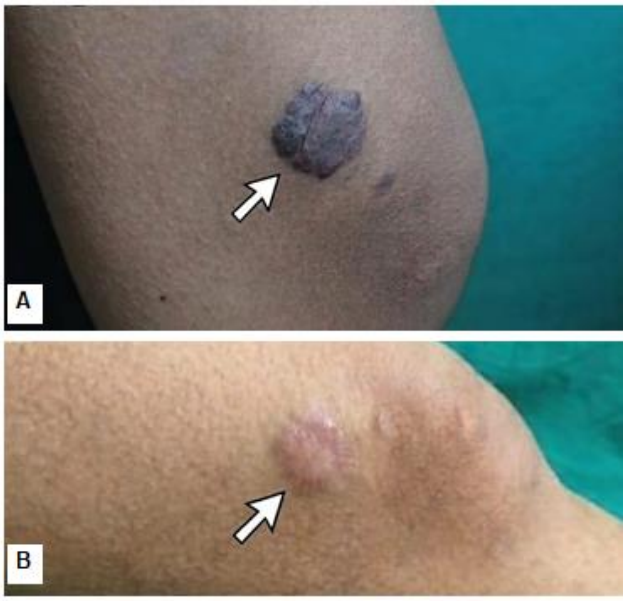

Figure 3 Pre-treatment photograph demonstrating a well-demarcated, erythematous, vascular plaque on the thigh. (B) Post-treatment photograph taken 3 months after sclerotherapy, showing significant involution of the lesion and reduction in erythema.

using a 26-gauge needle under aseptic precautions, with EMLA cream applied under occlusion 60 minutes prior to each session. Her mother reported improvement in pain after the third session, and by the sixth session, the child could sit through her school day without complaint

At three-month follow-up, the lesion had reduced to approximately 1× 1 cm and was non-tender. The surface had flattened considerably. No complications were recorded.

Discussion

In this series, four children with histologically confirmed EAH showed symptomatic improvement after weekly intralesional sclerotherapy with 3% polidocanol. Lesion size was assessed clinically at each visit by measuring the two greatest perpendicular diameters using a ruler; it decreased by approximately 50 to 80% across all patients. Pain resolved or diminished substantially, and no serious complications occurred. While these findings are preliminary, they suggest that sclerotherapy deserves consideration as a treatment option for EAH, particularly when surgery is undesirable

Surgical excision has traditionally been the ultimate treatment for EAH, with most case reports describing complete removal and low recurrence.[1,6] However, surgery is not always straightforward. Lesions near joints, as in our Case 1, cause risks of functional impairment and visible scarring. In young children, general anaesthesia imposes another layer of concern for families. Botulinum toxin has been reported to reduce hyperhidrosis in EAH,[4] but it needs repeated injections every few months and does not manage the vascular or structural component. Pulsed dye laser targets superficial vessels,[5] but EAH mainly involves deeper dermal vasculature that may be beyond the reach of standard laser parameters. Sclerotherapy, by contrast, can be used directly into the lesion at variable depths.

Sclerotherapy in EAH likely involves endothelial damage to the dilated vascular channels which leads to thrombosis, fibrosis, and gradual shrinkage.[7,8] One of our patients (Case 1) also experienced improvement in localized hyperhidrosis. We speculate that this may result from reduced blood flow to the eccrine glands, or possibly direct chemical effect on the glandular epithelium, though this remains unproven. It is worth noting that the other three patients did not have clinically evident hyperhidrosis, so we cannot generalize this observation.

Limitations of our study is that the sample size of four is small, and all patients were treated at a single centre, limiting generalizability. Follow up ranged from only two to three months, which is insufficient to comment on long term durability or recurrence. We did not use standardized outcome measures such as pain scales and relied on clinical assessment and patient reported improvement.

Despite these limitations, our experience suggests that sclerotherapy with 3% polidocanol may be a useful option for EAH, particularly in children, in lesions located over joints or cosmetically sensitive areas, or when families prefer to avoid surgery. Based on our cases, we suggest weekly sessions until clinical plateau, typically 8-12 sessions, using small volumes (0.2 to 0.5 ml depending on lesion size and patient age). Long term studies with larger samples and objective outcome measures are required to confirm efficacy and assess recurrence rates.

Conclusion

Intralesional sclerotherapy with polidocanol shown promising, minimally invasive alternative for the treatment of eccrine angiomatous hamartoma (EAH) in the paediatric population. This method is particularly beneficial when surgical risks like general anaesthesia, functional improvement or significant scarring is very high. Our short -term finding suggest excellent efficacy in reducing lesion volume and symptoms. Follow-up are necessary to establish the long-term durability of this treatment.

Declaration of patient consent Authors certify that they have obtained all appropriate patients' consent.

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Conflict of interest No conflict of interest.

Author's contribution

SS,MSS: Substantial contribution to Identification & management of cases, manuscript writing.

HNSR: Substantial contribution to Identification & management of cases, critical review of the manuscript.

RSG: Substantial contribution to diagnosis & management of the cases, critical review of the manuscript.

Every author has given final approval of the manuscript version to be published and agreed to be accountable for all aspects of the work.

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