

# Deoxycholic acid injections as a nonsurgical treatment for lipomas in adiposis dolorosa (Dercum disease)

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## Abstract

Adiposis dolorosa (Dercum disease) is a rare condition characterized by diffuse and recurring painful lipomas on the trunk and extremities. Patients are typically middle-aged females with an elevated BMI presenting with chronic pain. Physical examination reveals soft subcutaneous nodules and masses, tender to palpation. The associated pain significantly impacts quality of life and requires therapeutic intervention. The most common treatment option is surgical excision. Alternative options should be considered for patients with numerous lipomas where surgical management is not practical or is not desired. Deoxycholic acid injections are a viable alternative non-surgical technique. We present a case of a 55-year-old woman who presented with a history of Dercum disease and worsening pain associated with multiple lipomas. The patient desired a non-surgical intervention. She was subsequently treated with three rounds of deoxycholic acid injections with reduction in pain and improved mobility. Intralesional deoxycholic acid injections are a safe and effective nonsurgical alternative for patients with multiple lipomas.

*Keywords: adiposis dolorosa, deoxycholic acid, Dercum disease, lipoma, quality of life*

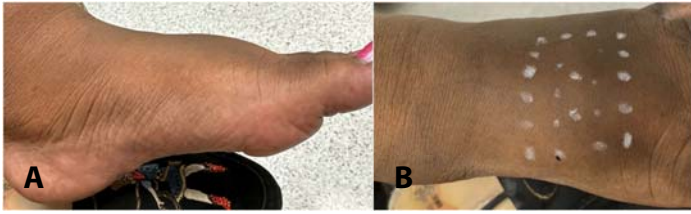
## Introduction

Adiposis dolorosa (Dercum disease) is a rare condition involving the recurring growth of painful lipomas in the trunk and extremities. Although

excision of bothersome lipomas is relatively simple, cost effective, and safe treatment, it may not be feasible for patients with Dercum disease given the number of symptomatic lipomas [1]. An additional consideration against excision in Dercum disease is the frequent recurrence of excised lipomas. Alternative options can be considered, including intralesional triamcinolone, radiofrequency treatments, or high-intensity focused ultrasound. However, lack of response, access, and cost are common barriers. This report highlights a known yet less commonly used alternative technique, deoxycholic acid (DCA) injections, in the treatment of Dercum disease.

## Case Synopsis

We present a 55-year-old woman who presented to the dermatology clinic with a seven-year history of adiposis dolorosa (Dercum disease). The patient had previously undergone surgical excision of painful lipomas with limited short-term relief. Additionally, the patient follows in the rheumatology clinic and failed treatment with colchicine. She reported worsening pain of her lipomas with significant burning and decrease of quality of life as she also experienced pain with wearing shoes and walking. Physical examination revealed multiple small to moderately-sized, mobile subcutaneous nodules in the bilateral upper and lower extremities and abdomen. She endorsed tenderness at some of the nodules. Notably, she had a particularly tender subcutaneous soft mass on the left dorsal foot that



**Figure 1. A)** Lipomatous soft mass on the dorsal left foot. **B)** Grid pattern used for injections of 0.1ml deoxycholic acid for diffuse lipomas in adiposis dolorosa.

interfered with her ability to wear shoes (**Figure 1A**). Given her extensive history and failed treatments, she inquired about alternative non-surgical therapies. The patient was subsequently treated with DCA injections of 0.1ml one centimeter apart in a grid-like pattern (**Figure 1B**). She received three rounds of injections with moderate symptomatic relief and improved mobility.

## Case Discussion

Although surgical excision is the first-line treatment option in Dercum disease, alternative therapies should be considered when lipomas are recurring, painful, and multiple. Although there is insufficient data to quantify the degree of pain reduction with DCA injections, it should be considered as an alternative therapy. The clinician can administer intralesional DCA injections of 0.1ml one centimeter apart in a grid like pattern. A maximum dose of 10ml is indicated by the package insert, but we recommend using low total doses of 1.0-2.0ml to

minimize risk of adverse reactions, including risk of nerve injury. A reduction in lipoma size and pain can be achieved with multiple injections over time as observed in this case. Previous research supports this outcome, as DCA injections led to notable improvement in symptoms via a reduction in tumor size, as seen on radiograph [2-4].

## Conclusion

Deoxycholic acid injections will likely prove to be a beneficial alternative therapy for patients with Dercum disease considering the patient reported symptomatic relief, ease of application, and avoidance of surgery. Importantly, DCA injections offer improved quality of life and overall satisfaction in treatment outcomes compared to standard excision practices [2-4]. In patients with Dercum disease, quality of life and patient satisfaction should be a primary consideration when considering treatment options for patients with a high disease burden.

## Potential conflicts of interest

The remaining authors declare no conflicts of interest. Neda Nikbakht received honoraria for serving on advisory boards at Helsinn Healthcare, Kyowa Kirin, and grants/research funding for serving as investigator for Helsinn Healthcare.

## References

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